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JPRS-TTP-86-017

3 JULY 1986

## Worldwide Report

# TELECOMMUNICATIONS POLICY, RESEARCH, AND DEVELOPMENT

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Current JPRS publications are announced in Government Reports Announcements issued semi-monthly by the National Technical Information Service, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

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WORLDWIDE REPORT  
TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

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HONG KONG

**NEW TELEX SYSTEM WILL SPEED TRANSMISSION 4.5 TIMES**

Hong Kong SOUTH CHINA MORNING POST (BUSINESS NEWS supplement) in English 8 May 86 p 3

**[Text]**

Cable and Wireless will shortly introduce a new telex system in Hongkong that will transmit at 4.5 times the speed of the current system and provide double the number of characters.

Mr David Lawrence, the company's divisional manager for text services, told the OFEX '86 Conference on Tuesday that Cable and Wireless will begin offering connections to the advanced system this summer.

The system operates in ASCII code which has 97 characters instead of the normal 48.

Cable and Wireless claims a recent survey among the 27,000 telex subscribers in Hongkong "showed that the majority considers telex as an advantageous means of communication."

Only 17 per cent of respondents listed convenience

as the most significant advantage, and 50 per cent cited speed of delivery as the main benefit, Mr Lawrence said.

Telex, introduced in 1959, "has not lost its competitive edge over newer forms of communication," he claimed.

"Part of the reason is its universality - to date, nearly two million businesses worldwide use the service."

Cable and Wireless will also introduce the Instore facility shortly which will enable a company's computer to accept telex calls when the regular terminal is busy or temporarily out of order. The computer will then deliver the message when the telex terminal is available.

Mr Lawrence unveiled at the conference a new telex terminal, Supertelex 2021, which has the additional functions of word processing and electronic mailing.

/9274

CSO: 5540/072

HONG KONG

## CAPABILITIES OF TELEPHONE COMPANY CABLE ASSESSED

Hong Kong SOUTH CHINA MORNING POST (supplement) in English 8 May 86 p 3

[Article by Peter Robinson]

[Text]

Hongkong Telephone Co Ltd (Telco) will be formally required to continue providing a number of its services, such as severe-storm warnings and aids for the handicapped, under the terms of an "obligatory" list recently approved by the Government.

The category has been created under revisions of the company's scheme of control now taking place, managing director Rod Olsen said yesterday.

"Tariffs for obligatory services will remain subject to certain accountancy controls, but there will be no profit restriction," he told Hongkong Management Association's telecommunications group.

Also on the obligatory list are Starline, which offers a number of extra services to telephone subscribers; the computer communication network, Datapak; and other international data and facsimile transmission services.

Telco is still discussing with the Government the restrictions on profits imposed by the scheme of control.

However, Mr Olsen said in his speech yesterday that no change had been made to the 16 per cent limit on the permitted return on shareholders' funds. The limit was described as "unduly and un-

necessarily restrictive" by Telco chairman B.A. Pemberton in his 1984-85 annual report.

Mr Olsen also said that the 1982 deregulation of certain telecommunications services had left several customers confused. Many thought equipment bought from other companies could be repaired by Telco.

Communications Service Ltd, the Telco subsidiary competing in the equipment market, has also voiced concern that some equipment sold by other companies is sub-standard.

With regard to cable television, he believed the Broadcasting Review Board had been unfairly criticised for not making more detailed recommendations about cable TV. The board's main concern had been with broadcasting, not narrowcasting.

Cable TV was just one of many additional services which could be provided on the network of 10 million metres of fibre-optic cable now lying beneath Hongkong's streets.

But Telco was interested only in providing technical back-up and the network for cable television. Another body or joint venture partner would have to be responsible

for the programming.

Other services which the network could provide were home banking and video conferencing. In Japan, apartment blocks were increasingly being co-ordinated electronically with the telephone network. Someone leaving home and forgetting to turn off the air-conditioning could do so electronically over the phone.

Mr Olsen said that as well as offering opportunities for linking more offices and homes into an advanced digital network, fibre-optics would soon provide the opportunity for direct digital links with Korea, Japan, Guam and the United States.

Telco's new computing subsidiary, Computasia Ltd, which started business this year, had already been successful in selling its software services to overseas customers. "The future of telecommunications will be software driven," he said.

Cable and Wireless, Telco's parent company, was spending \$1.5 billion a year expanding its services and asset base here, he added. Much of this work was long-term, relating to projects with timescales of up to 20 years.

Telco itself had "greatly decentralised its operations into smaller business units.

/9274  
CSO: 5550/0128

HONG KONG

DISCUSSIONS HELD ON DIRECT MACAO-HONG KONG TV TRANSMISSION

Hong Kong HONGKONG STANDARD in English 15 May 86 p 1

[Text]

MACAU Television is planning direct transmissions to Hongkong and the two governments are holding discussions on the issue, a spokeswoman for *Tele-difusao de Macau* said yesterday.

The discussions centre on erecting a relay station on either Lantau Island or on the New Territories border to enable Macau TV to

beam programmes direct to Hongkong, the spokeswoman added.

She said the Lantau hills are the only barrier to Hongkong viewers receiving Macau TV transmissions.

"A relay station will get the transmission over the hills," she added.

But spokesmen for the Hongkong Government Information Service and the Postmaster-General's office denied the move.

However, a senior administrative officer in charge of films and broadcasting of the Television and Entertainment Licensing Authority, Mr John Wan, said: "Yes, there is something in the air about a Macau TV transmission, but what naturally concerns me is the quality and standard of the programmes it transmits.

"Before a licence to transmit is issued, it (Macau Television) will have to agree to conform to our standards.

"We will not let it transmit anything and everything."

/9274  
CSO: 5540/072

BRAZIL

FOREIGN MINISTER ON UPCOMING INFORMATICS MEETING

PY101559 Brasilia Radio Nacional da Amazonia Network in Portuguese 1000 GMT  
9 Jun 86

[Text] The Brazilian Government has already defined the timetable for discussing informatics matters with the United States. Foreign Minister Abreu Sodre has reported that his meeting with U.S. Secretary of State George Shultz, during which they will discuss the preservation of the Brazilian informatics market, will take place only after the two countries hold a meeting at the technical level.

Minister Abreu Sodre did not want to disclose the date of the meeting, but asserted that Itamaraty already has the meeting scheduled.

[Begin recording] No, the schedule is already prepared. There will be a meeting at the technical level, and then I will meet with Shultz. [end recording]

The location of the technical meeting and the name of the Brazilian representative who will attend have not yet been given, but it will probably be in Paris with an experienced diplomat -- possibly the Brazilian ambassador to international institutions, Paulo Nogueira Batista. According to the U.S. Department of State, the U.S. representative at this technical meeting will be White House international trade adviser Clayton Yeutter.

/9274  
CSO: 5500/2056

BRAZIL

BRIEFS

GOVERNMENT ANNOUNCES INFORMATICS BUDGET--The Brazilian Government will spend 12 billion cruzados on informatics this year. Two-thirds of this amount will be paid in salaries to 60,000 trainees, and 3.5 billion will be used for the purchase of foreign-made equipment. The government is the biggest purchaser of informatic equipment in the country. [Text]  
[Sao Paulo Radio Bandeirantes Network in Portuguese 1000 GMT 9 Jun 86 PY]  
/9738

CSO: 5500/2055

CUBA

RADIO MARTI SEEN 'INEFFECTIVE' AFTER ONE YEAR OF OPERATION

Moscow IZVESTIYA in Russian 21 May 86 p 5

[Article by A. Kamorin: " 'The Electronic Equivalent' of Aggression"]

[Text] Exactly one year ago, on 20 May 1985, the U.S. opened a new front in the undeclared war against the Republic of Cuba. The "military actions" began by taking into account the element of surprise: public opinion and the U.S. press did not even know that on that day, at 5:20 A.M., transmitters with a 50 thousand watt capacity on Cape Marathon in the state of Florida "fired" into the airwaves the first call signs of a new affiliate of "Voice of America"--"Radio Marti".

The anti-Cuban radio sabotage began, of course, not just a year ago. Immediately after the overthrow of the pro-American dictatorship of Batista, one after another of these subversive radio centers began to appear in Florida. Formally, their owners were considered to be those minions of the former dictator who fled from Cuba. But this whole motley "radio association" was financed and directed by the U.S. CIA. The majority of these stations, discharging into the airwaves foul language, threats and instructions for saboteurs infiltrated into Cuba, in time completely discredited themselves and happily disappeared into oblivion. The remaining stations beguiled the hearts of the "Gusanos" who lived in Miami. In any case, the strategists of the American administration understood that their influence on the Cuban audience had fallen irreversibly. Some kind of "new approach" was necessary.

This was done right after the accession to the post of president of R. Reagan, based on the recommendation of the ultra-conservative "Sante Fe Committee". The calculation was as such: the new radio station should provide all of the same kind of counterrevolutionary propaganda but in a "proper" covering, giving it the "respectable" status of a U.S. government institution.

The devaluation of "respectability", in truth, began even before the appearance on the air of the new "voice"--with the name of the radio station. Experts on propaganda from Washington were not able to understand that the use of the name Jose Marti was a cynical insult to every Cuban patriot. But the propensity for "wit" and the pursuit of propaganda effect were irresistible to Washington.

Advertising in Congress the idea of creating a new anti-Cuban radio station, the experts of the Washington administration stated that its function would include "dissemination of objective and balanced information about the U.S., the situation in Cuba and international events." In the past year the "information about the U.S." on the frequency of this radio station came down to an unrestrained advertisement for consumerism and the American way of life. Information on "the situation in Cuba" to put it mildly, was out of date. When WASHINGTON POST correspondent Cody decided to conduct an informal poll on the station's broadcasts he received from one of his Havana respondents this very eloquent answer: "It seems to me that all these people have the ideology and world view of the 1950's, that these programs were written 25 years ago."

Here is only one example of such a "frozen" way of thinking. In the radio center's broadcast of the melodrama "Esmerelda", one of the characters is a contemporary Cuban peasant. Here his wife, according to the writer, dies mainly because the hero cannot find on the island--a doctor. And this is in Cuba which has far surpassed other countries of Latin America in guaranteeing medical personnel for the population!

The history of the situation in "Esmerelda" is connected with events of completely long ago. In May of this year Minister of Health of the Republic of Cuba Julio Tejas and three well-known Cuban doctors were supposed to participate in an international congress in the American city of Atlanta. The intended to share with their colleagues the experience of the fight against infant mortality--an area in which Cuba has achieved world recognized successes. Curiously, former president of the U.S. J. Carter, appearing in the role of a patron of the congress, invited the Cuban doctors. The State Department refused the Cuban representatives permission to visit the U.S. This is "impartiality" Washington-style.

To say even a word of truth about Cuban reality on the frequencies of the station means a change in the subversive goals of its creation. On the other hand, to tell people lies about their everyday life is also useless. What remains for the radio saboteurs? Only gossip and disinformation, which make up the basic volume of broadcasts sent into the Cuban airwaves almost around the clock.

However, the obvious ineffectiveness of such broadcasts does not embarrass its organizers. The draft of the budget sent by the president to Congress proposes an allocation for the maintenance of the anti-Cuban "voice" of 11.6 million dollars in 1987--a million more than in the past year.

The anti-Cuban radio center is hardly the "spoiled child" of the American administration, but only one link in the global chain of subversive activities, called by the U.S. "a program of democracy and public diplomacy". The WASHINGTON POST, in an editorial called the activity of

all these "voices" a "completely legal form of international intercourse." It seems that the newspaper in this instance is calling a wish a reality. In addition to disinformation disseminated in its channels, the "voices" are involved in openly subversive actions, plainly contrary to the norms of international legality. Thus, on the night of 14-15 April of this year the Arabic-language service of "Voice of America" 15 times broadcast an appeal to the Libyan people, calling for the overthrow of Muammar Qadhafi. On the same night American bombers dropped bombs and missiles on Tripoli and Benghazi.

In the beginning the word then the bombs and marines--this is the American policy signifying the translation into the language of concrete matters that those who are not "convinced" should be destroyed. This state terrorism is the reverse side of the "program of democracy and public diplomacy." It was not without reason that a year ago a member of the House of Representatives of the U.S. Congress, Henry Gonzalez, called the startup of Radio Marti the "electronic equivalent of the armed intervention of the U.S. in the Bay of Pigs".

This comparison is very accurate. A month ago the Cuban people solemnly marked the 25th anniversary of the victory over Washington's mercenaries at Playa Giron. The failure of the adventure in the Bay of Pigs should serve as a lesson to the White House strategists--a quarter of a century is sufficient time for reflection. But, as is evident, neither the lamentable failure nor the consistent policy of the Cuban government, calling for normalization of relations between the two countries, has profited the American administration. It intends, as before, to continue the undeclared war against the Cuban revolution. This is a war as immoral as it is hopeless.

CSO: 1807/296

JAMAICA

## SEAGA OUTLINES PLANS FOR DATA 'TELEPORT' IN MONTEGO BAY

Kingston THE DAILY GLEANER in English 14 May 86 pp 1, 3

[Text]

**A**RRANGEMENTS TO LICENSE the operation of a teleport, for high speed transmission of data, have been completed and the complex, which is to be sited in Montego Bay, is expected to get underway shortly.

This was announced yesterday by Prime Minister Edward Seaga as he closed the 1986/87 Budget Debate in the House of Representatives. He also announced reduction in fertiliser prices and the exemption of small inns and lodging houses from the payment of Hotel Room Tax.

process this data in countries where the cost is cheaper, or to contract processing to operations in such countries.

"This has already become a fast growing industry in many parts of the world, even in the Caribbean where one major airline has already set up such an operation in Barbados.

"In Jamaica, the emergence of Jamaican firms able to undertake data entry contracts has been encouraging.

"Such firms have been established over the last two or three years employing 1,300 workers. Several others are now being established.

"One young entrepreneur who was recently employed to a large data processing firm established contract operations on his own one year ago. Today, he now employs 120 workers.

"But in all this we are only scratching the surface of the vast potential offered by this service industry. Opportunities exist which we have not begun to tap. It was for this reason that Government recently concluded negotiations with a group of American and Japanese investors to enter into a joint venture to establish a teleport in Jamaica.

"In the data-processing field, a teleport is the equivalent of an industrial estate in manufacturing. It is a complex which provides in one location the technological capabilities to receive and transmit data and process it in offices located within the same complex. Among the other facilities it offers is the capability to hold video conferences between parties in different parts of the world.

"If all its available lines are contracted for use it would offer employment opportunities in the first three years for more than 10,000 persons, earning US\$12.3 million per annum in foreign exchange.

"What is particularly interesting about this proposal is that the category of worker required would absorb thousands of young girls with some typing skills or ability to learn key punching, who cannot be accommodated in the secretarial group.

The arrangements are to site this complex in Montego Bay and link it to other areas in the island requiring its facilities. It differs from Jamintel in that it will not deal with individual calls but will lease its lines to users.

"Government will own 20% of this venture.

"It now only remains to secure the agreement of Intelsat, the international regulatory body for satellite telecommunication. As it is anticipated that this might take until 1987 to be obtained, an interim agreement is being sought for a short-term arrangement, in order that operations may proceed.

"Government has already taken the initiative to bring our interest in this matter to the appropriate authorities in Washington."

/9274  
CSO: 5540/073

JAMAICA

BRIEFS

RADIO FREQUENCY USE--Government will be taking steps soon to return some order in the use of radio frequencies in Jamaica, Minister of Public Utilities and Transport, the Hon Pearnel Charles has indicated. The Minister said recently, that there was much disruption of legal radio broadcasts today, caused from interference from illegal transmissions, Mr Charles said that the security forces were now seriously concerned about the level of interference from illegal broadcasts. Mr Charles said he had already met with the security forces on the matter. He said the Government could not allow the disruptions to continue, because that situation was not in the interest of proper development of the country's communication system. [Text] [Kingston THE DAILY GLEANER in English 12 May 86 p 2] /9274

CSO: 5540/073

TRINIDAD AND TOBAGO

TV SERVICE INSTALLING SATELLITE DISH RECEIVER

Port-of-Spain TRINIDAD GUARDIAN in English 23 May 86 p 1

[Article by Gail Alexander]

[Text]

TRINIDAD and Tobago Television will complete installation of its recently acquired — and controversial — satellite receiver today. This was confirmed by TTT General Manager John Barsotti yesterday.

According to Mr. Barsotti the satellite dish will be hoisted onto a pedestal towering just over the roof of the station's Maraval Road offices. It will not be in working order immediately.

He said: "Even though the satellite dish will be in place, it won't be working right away. However, we hope that our technicians will have it operational soon, and we figure that it should be working in more than enough time for the World Cup football games."

The games start on May 31 in Mexico.

Mr Barsotti declined to give the cost of the entire project. He said the dish was being installed by local engineers with American and Canadian experts.

When TTT first indicated that it intended to erect a satellite "dish," Trinidad and Tobago External Tele-

communications (Textel) said TTT would be breaching the licence under which Textel operated.

According to that licence, Textel is the sole body in the country which is allowed to receive and transmit telecommunications.

**Cost Effective**

Officials of the Ministry of Public Utilities and National Transportation who have been investigating the matter, said the problem was being resolved.

Officials explained that the scales seemed weighted in TTT's favour since most Caribbean television stations installed their own satellites.

Concern had also been expressed about duplication of technology by Textel and TTT and the cost, but Ministry officials said that was being worked out.

They added: "While Textel has certain rights regarding telecommunications, we found that it would be more cost effective to allow TTT to have its own satellite. If TTT had to use Textel's services, it would have to pay and it was estimated that TTT might be able to save some money by installing its own dish."

A conservative estimate of the entire project cost has been put at approximately \$1.5 million.

Commenting on the matter, Textel General Manager Lennox Worrel told the "Guardian" that the matter was well on its way to being resolved and that he did not consider it a furore any longer.

/9274

CSO: 5540/074

EGYPT

MARITIME STATION, CABLES DISCUSSED

Cairo THE EGYPTIAN GAZETTE in English 25 May 86 p 2

[Text]

THE INTELSAT organisation has selected the Egyptian ground satellite station at Maadi as the best in the world concerning efficiency of service and work continuity during 1985, said Mr. Soliman Metwalli, Minister of Transport, Communications and Maritime Transport, following a meeting with Mr. Wagdi Abdul Hamid, Chairman of the National Communications Authority, and a number of senior officials in this field.

Mr. Metwalli also said that the Authority has signed a contract to set up a new station for maritime communications through satellites and that the new station will

be operational early in 1987. He pointed out that the range of the new station will cover the Mediterranean Sea, the Red Sea, the Atlantic Ocean and the Indian Ocean.

The Minister, moreover, said that the laying of the new maritime cable Singapore — Marseilles, which passes through Suez, Cairo and Alexandria, will be completed next Wednesday thus providing 2,400 additional international communication circuits to Egypt. This cable will also help boost communications between Egypt and the outside world and will make Egypt a centre for international communications. — GSS

/9274  
CSO: 5500/4620

INDIA

## SEMINAR ON OPPORTUNITIES IN TELECOMMUNICATIONS REPORTED

Madras THE HINDU in English 22 May 86 p 17

[Article by C. V. Gopalakrishnan]

[Text]

**A** ONE-DAY national seminar on business opportunities in the telecommunication sector organised by the Association of Indian Engineering Industry (Southern Region) last month provided an opportunity to understand clearly two main issues. They are:

(i) The magnitude of the task of expanding the telecommunication network in the country during the next 15 to 20 years.

(ii) Whether the private sector can make an effective contribution.

Maj. Gen. Shyamal Ghosh, Chairman and Managing Director of Bharat Electronics Ltd., and Mr. U. D. R. Rao, Director, Telecommunication Research Centre, New Delhi, were listened to with rapt attention by the other participants in the seminar.

The background papers explained why the Government had come round to the view that private sector entry into the area of manufacture of telecom equipment, which has long remained a State monopoly, should be encouraged. A policy statement made in Parliament on March 23, 1984 had concluded with an announcement of two major decisions. These were:

(i) The cooperation of private enterprise may be secured in the manufacture of switching and transmission equipment for the communications sector with at least 51 per cent share being held by the Central or State Government and a maximum of 49 per cent being held by the private parties. This is already permissible under the Industrial Policy Resolution of 1956.

(ii) The private sector may be permitted to take up the manufacture of telecommunication equipment for installation at the subscribers' premises such as telephone instruments, PABX's, teleprinters and data communication equipment.

### Dimensions of task

The magnitude of the tasks involved in expanding the telecommunication network in the country was presented in all its staggering proportions by Maj. Gen. Ghosh. With only four telephones per population of 1,000, India com-

pares very poorly even with other middle income developing countries like Brazil and Mexico which have respectively 63 and 74 telephones per 1,000 persons. It is not just a question of scraping the resources for the colossal investment required to step up the availability of telephones: it is the building of a telecom infrastructure which will be several times bigger than the existing one if India wants to catch up even with these two countries in the next 10 or 15 years.

Maj. Gen. Ghosh pointed out that the very low telephone density—or the poor availability of telephones—was seriously impairing the telephone network by throwing a heavy traffic load on the telephone exchanges. The load on the network in urban areas could be relieved to a considerable extent if the availability of telephones could be stepped up to 12 per cent of the urban population and about two per cent in rural areas. As the estimated urban population in the principal cities and towns is around 140 millions, the total number of telephones required to ensure a satisfaction level of 12 per cent in urban areas is 16.8 millions. The requirement of telephones to correspond to two per cent of the rural population should be 11.2 millions, adding up to a total of 28 million telephones for the whole country; this will correspond to 24 million exchange lines. The present availability of exchange lines is 3 millions.

These are the dimensions of the task facing the telecommunication authorities even if they only want to save the telephone system from the likely collapse as a result of the excessively heavy loads thrown upon it.

Maj. Gen. Ghosh said that the working group entrusted with the task of estimating the investment needed to ensure the availability of 28 million telephones by the end of the Seventh Plan had placed it at Rs. 12,825 crores and the expenditure spilling over from the Sixth Plan would take it further to Rs. 13,648 crores.

He mentioned that though the department had spent Rs. 2,838 crores during the Sixth Plan against the targeted outlay of Rs. 1,336 crores, the physical performance fell short of

the targets as could be seen from Table I:

(These figures, however, do not tell the whole story. The Seventh Plan document itself mentions that the target for direct exchange lines for the Sixth Plan was revised downwards during the mid-term review from 13.30 lakhs to 11 lakhs because of a resource crunch and the actual performance of 9.03 lakhs works out to around 80 per cent of the revised target.)

The Planning Commission could not see how, with the best of efforts, the telecommunications department could handle an outlay thrice the Sixth Plan level. The Seventh Plan outlay was, therefore, slashed to Rs. 4,010 crores a level considered feasible.

meet the requirements of the Department of Telecommunications for power plants needed for the electronic exchanges, data modem, data terminals, semiconductors, capacitors, printed circuit boards and mechanical items like racks, shelves and antennae. The prospects for the private sector in respect of the other items indicated by the user organisations participating in the seminar are briefly mentioned in Statement III;

Major Gen. Ghosh did not seem to think that the entry of the private sector units into the field of telecom equipment manufacture would make any big difference. Though he said that the opportunities available for the private sec-

## Sixth Plan performance

	Target	Performance	Percentage to target
Direct exchange lines	13.30 lakhs	9.03 lakhs	68
No. of telephone exchanges added	3,500	3,278	93.66
No. of telephone instruments provided	35.25 lakhs	30.50 lakhs	86.52

The question that now arises is: If the public sector, with its resources and capabilities cannot cope with the emerging demands, can the private sector make a major contribution by making the equipment farmed out to it?

The background papers for the seminar mention the private sector and State Government units licensed or proposed to be licensed to make the telecom items mentioned against them (Statement II):

Apart from this, Mr. U. D. N. Rao said that it should be possible for the private sector to

tor were tremendous in the concluding years of this decade and in the future, he was sceptical about the capabilities of some of the parties who have been licensed to make telecom equipment. Quite a number of them, he said, would be taking up these items for the first time. The problem of "bugs" is a particularly messy one in the case of electronic telecommunication items and he was quite apprehensive about the kind of problems the Department of Telecommunications may have to face with the products supplied by the private sector.

## Telecom items and likely suppliers

Indian Reprographic Systems Private Ltd., New Delhi  
DCM Ltd., Delhi  
Mahindra and Mahindra Ltd., Bombay  
Escorts Ltd., New Delhi  
JKBM Ltd., Calcutta  
Larsen & Toubro Ltd., Bombay  
Blue Star Ltd., Bombay  
Tata Industries, Bombay  
Unitron Ltd., New Delhi  
Himachal Pradesh State Electronics Development Corporation, Amla  
Electronics Corporation of Tamil Nadu, Madras  
Cear India Multitronics Private Ltd., New Delhi  
U.P. Electronics Corporation, Lucknow  
Telelunk Nicco Ltd., Calcutta  
Uptron Communications and Instruments Ltd., Lucknow

Each to make 50,000 lines of private automatic branch exchanges and allied equipment.

Cordless telephones for Rs. 3 crores.

5,000 lines of field telephones  
20,000 push button diallers  
Cordless telephones for Rs. 3 crores  
Jelly-filled telecom cables  
Single and multiple access telecom system

## Suppliers for other items

### User organisation (requirements indicated by)

Indian Telephone Industries (Mr. M. G. Nair, Additional General Manager, Electronic Switching Systems)

Hindustan Teleprinters, (Mr. J. A. J. Rajadurai, R&D)

Bharat Electronics Ltd., (Dr. V. K. Koshy, Deputy General Manager, Ghaziabad)

Centre for Development of Telematics (C-DOT)  
Mr. T. Chandrasekharan, Manager (Hardware)

### Items

CMOS, microprocessors, LSIs, quartz, capacitors, resistors, thermistors, varistors, diodes, transistors for the two electronic switching systems for a total value of about Rs. 65 crores.

Hybrids, relays, printed circuit boards, etc., for total value of about Rs. 37 crores per year.

Computers, peripherals, power plants, testers, etc., for the ESS units for about Rs. 15.35 crores.

Standard parts like screws, washers, turned components, sheet metal components, spares including gears, clutch components, printed circuit boards, both single and double-sided, precision moulded plastic parts, including gears, stepper motors, ball bearings, code punches, tungsten contacts, raw materials including c-55 strips, steel wires 2.8 mm strip form and coil form.

Items for switch mode power supply, resistors, capacitors, integrated circuits, pot cores, connectors, sockets, etc.

Components including CMOS series, microprocessors, RAM memory, EPROM memory, CODEC, linear and other integrated circuits, transistors, light emitting diodes and displays, crystals, hybrid transformers, metal film resistors. The requirements range from 4,150 numbers of CMOS series, 1,51,300 for HCMOS series, 1,800 microprocessors, 1,00,450 diodes, 23,050 hybrid transformers, 4,79,350 metal resistors, etc.

Mr. Rao said the cost of indigenous equipment tended to be very high, particularly that of the pulse code modulation (PCM) equipment, amounting to Rs. 1.4 lakhs per terminal as against Rs. 80,000 to 90,000 for imported equipment. "We must find out why the costs of indigenous equipment are so high", he said and added, "we should not allow a situation to develop in which the Department of Telecommunications is left with no choice but to import". Since a large number of firms were entering the field, the department would have a wide choice of sellers and exploit the advantage. He advised the competing firms to do a careful market survey. Only a small number could really claim to be developing indigenous-ly designed equipment and had R & D facilities.

Mr. Rao said that the total value of materials for which the department and the other public sector buyers would be in the market would average Rs. 800 crores a year. Of this, Indian Telephone Industries would be supplying items for Rs. 200 crores every year. That left of Rs. 600 crores of which Rs. 200 crores would be in the form of cables. The department is, however, a tough customer, said Mr. Rao, and has very

tight procedures for testing and the private sector units will have to make sure that the specifications are met thoroughly.

There are quite a number of crucial items which have no indigenous suppliers at all. These include digital and microprocessor integrated circuits, IC memories, codecs, interface elements and displays, microwave and special purpose transistors, light emitting diodes, and special purpose diodes. There are other items supplied by Indian parties but their quality is not upto the mark. These include ceramic capacitors, switches, crystals, thermistors and spark quenches.

The Centre for Development of Telematics (C-DOT) has found that while many of its Indian vendors had state-of-the-art plant and equipment and talented people with considerable analytical ability, they suffered from other deficiencies. They lacked marketing knowhow, their low volume production imposed certain disabilities, they had little experience in solving problems arising out of high volume production and they suffered from a lack of commitment to quality due to low customer expectations.

/9274

CSO: 5550/0123

INDIA

## ITI CHAIRMAN INAUGURATES NEW DIGITAL EXCHANGE

Madras THE HINDU in English 24 May 86 p 12

[Text]

BANGALORE, May 23.

The Chairman and Managing Director of the Indian Telephone Industries, Mr. K. P. P. Nambiar, today criticised the import of telecommunication equipment and know-how and declared that the ITI could meet the country's needs of switching equipment for the telephone exchanges for the next 20 years.

He was presiding over the inauguration of the First Digital Electronic Telephone Exchange in the State at Hebbagodi, 20 km from the city on the Hosur Road. The 512 line exchange, which is an Integrated Local-cum-Trunk Exchange (ILT), is the second in the country, the first one having been commissioned in Udayamperoor in Ernakulam district of Kerala two years ago.

Mr. Nambiar said the exchange was the answer to the import of technology and equipment which was draining the country of crores of rupees. It was the fruition of years of research. More than the import of know-how, it was the import of equipment which "is causing us trouble". There was large-scale import of equipment which must be attributed to the failure of planning in the past.

**Indigenisation:** The country could do without any imports of switching equipment if the ITI's efforts were supported. The ITI factory at Mankapur in Uttar Pradesh had achieved indigenisation on a large-scale in the field of digital exchanges. This year they had proposed to manufacture 15,000 lines and 25 exchange equipment of the Integrated Local-cum-Trunk (or transit) exchange category, Mr. Nambiar said.

The Indian Air Force had found the ITI-manufactured ILT exchanges more suitable than the imported exchanges. The ITI had received orders for 16 defence telephone exchanges. The ILT technology was the latest one using micro-processors. It had applications for large public automatic exchanges and could see the country through to the 21st Century.

Mr. Nambiar said that the ITI was in a position to transfer technology to entrepreneurs selected by the Government and to joint sector companies in the field of rural telephone exchanges. Such a transfer would obviate the need for import of equipment.

Another reason for reliance on imports was the lack of confidence in our engineers and

scientists, he remarked. The ITI would emulate the Centre for the Development of Telematics (C-DOT) which had taken up a Rs. 36 crore research and development project. Ever since he became the Chairman and Managing Director of ITI in March 1985, they were placing stress on research and development. The company had assigned 1,500 employees, including 800 engineers, to that work.

Inaugurating the exchange, Dr. P. N. Choudhury, Member (Technology), Telecom Board, also spoke of the need to end dependence on imports.

**Direct dialling:** Mr. K. P. Luke Vydhian, General Manager, Telecommunication, Karnataka, said that subscribers in Hebbagodi could directly dial numbers in Bangalore with the commissioning of the new exchange. Similar exchanges would be installed in Kittoor (Belgaum district) Yelvala near Mysore city and Bajpe (Mangalore). The General Manager of Bangalore Telephones, Mr. G. T. Narayan, said it signified a quantum jump in telecommunications for Hebbagodi as only last year it was given a manual exchange. The installation of an electronic exchange at Jayanagar in the city would help eliminate the waiting list for telephones up to those registered till March 31, 1986. There were some waiting for the last seven years to get a telephone in that exchange.

Mr. R. S. Bansal, Additional Director, Telecommunications Research Centre, Delhi said that the exchange had a capacity of 2,000 lines:

Dr. Sira G. Rao, General Manager (Switching and Phones R and D), ITI, proposed a vote of thanks.

The modern telephone exchange has been jointly developed by the ITI and the Telecommunications Research Centre of the Department of Telecommunications and manufactured by the former. It is a modern digital exchange, using microprocessors for control and uses digital techniques to ensure clear speech. It has been specially designed to serve the low capacity rural exchange requirement and links them with the national and STD network (Dr. Choudhury suggested that it should be linked with the International STD network also).

It has the special feature of "non-blocking" and for a local call, a busy tone is received only if the called subscriber is actually busy. The other unique features are call waiting, called alert, hotline, malicious call trace, easy STD barring facility of ring back when free etc.

/9274  
CSO: 5550/0124

INDIA

TELEPHONES PHASING OUT NONDIGITAL SYSTEM

Calcutta THE TELEGRAPH in English 23 May 86 p 6

[Text]

**New Delhi, May 22 (PTI):** The manufacture of strowger and crossbar types of switching equipment in the Rae Bareli complex of Indian Telephone Industries is likely to be phased out in view of the government's decision to go in for digital technology in telecommunications.

However, alternative proposals are being worked out to keep the well established unit going even after phasing out these two types of equipment "The complex will not be closed", the executive director of the unit, Mr Dharam Vir Gupta, asserted while talking to a party of newsmen which visited the factory recently.

Despite various problems the complex achieved a record production of about Rs 52 crores—20 per cent of the total production of ITI—in 1985-86. The target for 1986-87 for production of equipment is equivalent to 1.10 lakh lines valued at Rs 80 crores, Mr Gupta said.

While the production of strowger is expected to be phased out first in the next three to four years the manufacture of crossbar would continue for a few years more, officials of the factory said.

Mr Gupta said that the production, especially of strowger in 1976, started with various constraints such as utter lack of trained manpower, bottlenecks in the supply of raw materials, erratic and interrupted power supply and complete absence of industrial culture in the area, affecting the rate of growth.

But the production has now been stabilised, the complex recording a growth rate of about 80 per cent in the last two years after overcoming the problems, he said.

The production of strowger during 1985-86 exceeded the target by more than ten per cent and the crossbar unit produced equipment equivalent to 28,305 lines.

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CSO: 5550/0126

INDIA

## OFFICIAL SAYS BOMBAY PHONES AHEAD IN AUTOMATION

New Delhi PATRIOT in English 24 May 86 p 5

### [Text]

**Bombay, May 23 (PTI, UNI)**—There are many firsts to the credit of Bombay telephones, according to Mr M P Shukla, the managing director of the recently launched the Mahanagar Telephone Nigam.

The first analogue electronic, the first electronic telex and the first digital local exchanges of the country were commissioned in Bombay, Mr Shukla said here last evening while addressing the maidan press conference of the Nigam which took over the management, control and operation of the Bombay and Delhi telephones districts from 1 April.

The Bombay telephones has the biggest telephone systems in the country with 72 exchanges and 4.59 lakh lines. The system comprises electronic, cross bar and strowger exchanges, Mr Shukla said.

Mr Shukla pointed out that the main objective behind the setting up of the Nigam was to exploit the finances from the open market since the Government had its own limitations in allocating funds. The allocation in the

Seventh Plan was reduced to Rs 4,000 crore from Rs 12,000 crore, he said.

The Nigam proposes to issue bonds for Rs 300 crore between August to October as part of its drive to mobilise resources.

Nigam financial adviser R C Rastogi said the Government was considering various proposals to make the bonds more attractive. Concessions for the purchasers of bonds, would be one of them, he said.

Mr Shukla said the short term expansion programme for Bombay included the opening of additional digital electronic exchanges at Marol, Khar and Goregaon in North Bombay and at cooperative and another plane in South Bombay.

The programme also includes installing a containerised electronic exchange at Belapur and a digital trunk automatic exchange with 6,000 lines at Flora fountain in South Bombay in replacement of pentaconta tax. It is also proposed to instal 56 electronic PABXs.

Mr Shukla said the long-term pro-

gramme included the opening of seven new electronic exchanges in the city and in Panvel and Thane Cheral.

Digital remote line units would be installed in the suburbs and extended suburbs as well as Sheva, Nerul, Kalamboli and Sonekar, he said.

Mr Shukla said there were proposals to introduce new services like mobile telephones, radio paging system, paperless trunk working, videotex and electronic mail in Bombay between 1987-90.

Optical fibre systems, digital coaxial systems and digital microwave systems will also be introduced.

According to Mr Shukla, the introduction of the automatic message accounting system in another year in all the electronic exchanges, would greatly reduce overbilling. Global tenders were proposed to be issued for introducing this system in the electro-mechanical exchanges.

Mr Shukla said a new personnel policy was being formulated to ensure the availability of well-trained office and field staff for maintaining services

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CSO: 5550/0125

INDIA

FRENCH COMPANY TO COLLABORATE IN PIPELINE TELECOM

Bombay THE TIMES OF INDIA in English 20 May 86 p 7

[Text] New Delhi, 19 May (PTI)--Indian companies will collaborate with Cit-Alcatel, A French firm, in implementation of the Rs. 82-crore tele-communication segment of the HBJ pipeline, according to the chairman of Indian Telephone Industries (ITI), Mr K. P. P. Nambiar.

He told newsmen at Mankspur in Uttar Pradesh that ITI, ECIL and TCIL, which had formed a consortium for the purpose, had earlier proposed to have a collaboration with Japanese Radio Corporation. But the consortium was asked to change the collaborator after the construction of the prestigious pipeline was entrusted to Spie Cappag-led consortium.

The details of the collaboration with Cit-Alcatel would be finalised by the end of next month, he added.

Indian Equipment

Mr Nambiar said following the change in the collaborator, about Rs. 10 crores worth Indian components would be used, as against Rs. 48 crores envisaged earlier.

This was because the new collaborator had expressed the view that certain items and equipment had to be imported as they cannot be manufactured in India in the short time available.

Foreign components worth Rs. 68 crores would be used in the project, as against the earlier estimate of Rs. 34 crores, Mr Nambiar said.

The consortium had decided to go in for French collaboration to gain experience which would help them in their future pipeline projects, he said.

Mr Nambiar said ITI had decided to take up both installation and commissioning of all the electronic exchanges in the country in future to avoid complaints.

The company has already established a division for the purpose and a general manager was being appointed, he said. Mr Nambiar said ITI was also planning to go in for the manufacture of computer peripherals.

Mr Nambiar said the hybrid plant and printed circuit board and moulding unit would be ready by this year.

French technicians would visit the plant shortly to install machinery at the moulding shop, an official who took pressmen around the factory said.

Mr Nambiar said the unit had been set up on the principle of vertical integration where most of the essential components were produced inhouse.

This approach was necessary in view of the infrastructure facility available at the time of conceptualising the project and the fact that since the factory was being set up in a green field area, all critical items had to be planned for inhouse production, he said.

The project site was a terrain land until recently. When the foundation was laid it was surrounded by floodwaters. About 40 cubic metres of water had to be drained out and mass earth filling up operation had to be taken up.

The workers in the area were also not skilled, he said, adding that despite all these factors, there had been a significant technology absorption in the unit.

#### Mini Township

A satellite communication link has also been established by the ITI in the Mankapur factory, connecting the remote area to national and international network.

At present this satellite communication is limited to voice communication. But it would be shortly expanded to facsimile and data communication applications, Mr Nambiar said.

The complete assembly plant, main frame computer, plant and captive power stations, would also be ready soon, he said,

Sanchar Wihar, a mini self-contained township is coming up to accommodate 2,550 employees and their families. About 550 quarters, according to Mr Nambiar, have already been allotted. The township has a school, shopping complex, bank and other public utilities. A full-fledged 75-bed hospital is also coming up, Mr Nambiar said.

In terms of ecological balance of the environment, the ITI is providing an effluent treatment plant and had planted about 10,000 trees and shrubs so far, Mr Nambiar said.

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CSO: 5550/0122

INDIA

BRIEFS

INDO-TURKISH PHONE LINK--New Delhi, 19 May (PTI)--India and Turkey have decided to establish direct international subscriber dialling facility between the two countries from May 22. This follows last month's visit to India by the Turkish Prime Minister, Mr Turgut Ozal and reflects the desire of the two countries to strengthen bilateral relations, according to the spokesman of the external affairs ministry. [Text] [Bombay THE TIMES OF INDIA in English 20 May 86 p 4] /9274

CSO: 5550/0127

3 July 1986

PAKISTAN

## BRIEFS

PLANS FOR COMMUNICATIONS SATELLITE--Islamabad, 5 Jun (XINHUA)--Pakistan is preparing to launch a domestic communication satellite system to facilitate telephone, telex, television and data transmission services nationwide. Salim Mahmud, chairman of the Pakistan Space and Upper Atmosphere Research Commission, said in Karachi yesterday that his commission had already completed a detailed design feasibility study on such a system. The project is likely to be implemented during Pakistan's Seventh Five-Year Development Plan period scheduled to commence in 1988. In the meantime, he said, ground work and training of personnel are in progress to ensure that satellite services will be used in an optimum manner. Salim Mahmud said Pakistan's space program is entirely focused on the peaceful application of space technology, especially those which have direct bearing on the masses. The policy will continue to be followed to make the best use of the limited resources, and while doing so maximum attention will be given to the promotion of international cooperation, he said. [Text] [Beijing XINHUA in English 0711 GMT 5 Jun 86 OW] /9738

CSO: 5500/4734

SAUDI ARABIA

BRIEFS

PROJECTS IN SAJIR DESCRIBED--Sajer, 16 May (SPA)--The number of the micro-wave stations based at Sajer currently stand at five, the telecom director here, Abdulrahman Al-Qablan said. Meanwhile, the number of telephone exchanges in Sajer and neighboring villages has reached three while telex lines totalled eight, Al-Qablan said. He indicated 600 telephone subscribers in the region and said new projects were to be implemented in the region within the framework of the expansion project. [Text] [Riyadh RIYADH DAILY in English 17 May 86 p 2] /9274

CSO: 5500/4506

SOUTH AFRICA

NEW M-NET TRANSMITTER TO BEGIN TESTING

MB040642 Johannesburg SAPA in English 1831 GMT 3 Jun 86

/Text/ Johannesburg, 3 Jun, SAPA--The SABC will this month be testing the M-NET transmitter at the Brixton tower, which will cover Johannesburg and the Reef, as well as parts of Pretoria and the Vaal Triangle.

At this stage viewers will see only colour bars on their screens and the signal may be scrambled at times, the general manager of the M-NET Electronic Media Network, Mr Koos Bekker, said in a statement today.

Two types of problems may occur for people who either receive Bop TV in "spillage areas" or who own VCRs: These are:

--in "Spillage areas" people receiving Bop TV via antennae with boosters should expect interference, which will be generated by the booster itself;

--in some cases a video cassette recorder output frequency may be the same as the M-NET frequency, channel 39. Therefore, all signals going through the cassette recorder would be interferred with.

"To solve the first problem simply unplug the booster powerpack or bypass the booster. In a few cases people may still receive a viewable Bop TV signal without the booster, but in most cases it will disappear.

"In the second instance, the solution lies in a readjustment of the VCR output frequency by way of a simple screwdriver adjustment at the rear of the VCR. After this, one should merely retune the TV set to accept the new VCR frequency," the statement said.

Most homeowners can easily do these adjustments themselves, but some may need technical assistance with the VCR problem.

"Owners of apartments blocks and townhouses, however, are strongly advised to consult M-NET prior to having any UHF installation done to avoid possible pitfalls," the statement said.

Initially M-NET had asked the SABC, which is responsible for broadcast frequency planning, for a VHF frequency like TV1, 2 or 3, but was informed that this was not available.

A VHF frequency would have brought down the cost of viewing because there would have been no need for subscribers to install any UHF aerials.

"In the event, M-NET was allocated UHF channel 39, which is rather close to the Johannesburg Bop TV frequency on channel 37. The transmitters are installed and owned by the SABC and leased to M-NET, the statement said.

The M-NET service starts on 1 October.

/12228

CSO: 5500/79

SOUTH AFRICA

BRIEFS

NEW TV TRANSMITTER PLANNED--An additional television transmitter at the Schweizer Reneke transmitting station of the SABC will be put into service on May 31, the SABC has announced. In a statement issued yesterday the SABC said this transmitter (10 kW output) will broadcast TV3 and the service area, which will be the same as that of the TV1 transmitter, includes Schweizer Reneke, Vryburg, Delareyville and surrounding areas. The transmitter will broadcast TV4 after the end of the day's TV3 transmission at 9,30 pm. The first month of operation will be considered as a test period during which transmissions may be interrupted without warning or apology to carry out necessary adjustments or repairs. Some of the receiving-antenna systems may have to be repositioned to obtain better results, the statement said. - Sapa. [Text] [Johannesburg  
THE CITIZEN in English 29 May 86 p 9] /12379

CSO: 5500/77

DENMARK

REDUCED REGULATION SEEN PREREQUISITE FOR INDUSTRY ADVANCES

Copenhagen BERLINGSKE AFTEN in Danish 2-8 May 86 p 22

[Commentary by Frede Vestergaard: "Telecommunications Revolution Coming Slowly"; first paragraph is BERLINGSKE AFTEN introduction]

[Text] The Danish telephone companies are among the foremost in Europe when it comes to technical modernization. But their monopoly is blocking a number of telecommunications services that are necessary if Danish businesses are to maintain their competitiveness.

A fullscale technological revolution is under way in the telecommunications area as a result of a merger of computer technology and telecommunications technology. Economic and political forces also favor renewal.

But in Denmark as in several other European countries there is a snag. Not in the area of technical development, where Denmark is among the leaders. The problem lies in the area of eliminating the restrictions that apply to the use of telephone lines for a number of new telecommunications services, something that is proceeding at record speed in countries like England that have liberalized their telecommunications sector.

The Danish private sector is placing great emphasis on limiting the telephone companies' monopoly to the installation and operation of the telephone network. Firms should be free to purchase all the new equipment that meets the necessary technical specifications. And private companies should be free to establish service bureaus based on permanently leased lines.

Meeting these requirements will have an enormous effect on the competitiveness of Danish businesses in the years ahead, according to the chairman of the telecommunications group of the Industrial Transport Committee, deputy director Borge Clausen of the Agricultural Computer Center in Arhus. Borge Clausen expressed regret that the public has not yet really grasped what a revolution is going on in the telecommunications area and what it will mean for the Danish private sector if it cannot utilize the advantages provided by this revolution.

## Digital Technology

The technical background for the telecommunications revolution is the digital technology we are familiar with in the context of computers. Digital technology is currently introducing high technology into the field of telecommunications.

Digital technology involves using the same signals to transmit telephone conversations (sound), TV signals (pictures), text (a process also known as electronic mail) and data (between a branch and a bank's computer center, for example).

In the digital network that is already under construction, it is impossible to tell by tapping into the signals if the communication is a telephone conversation, a data transmission or a letter on its way through the network from sender to receiver. The telecommunications system's timetable calls for the digital network to be completed in Denmark by 1991. This will increase the capacity of the existing network almost tenfold.

For historical reasons there are still different laws for the areas mentioned. While the postal service still has a monopoly on distributing letters, it has become possible for firms with video display units to transmit messages to each other over the computer network. The postal regulations do not indicate if this violates the monopoly. The legislation has not kept up with technical developments.

In Denmark the state has had a monopoly since 1897 on the operation and installation of telephones and telegraphs. To a large extent the monopoly has been turned over to the three telephone companies that have been given concessions, e.g. the sole right to transmit telephone conversations and sell telephones and telephone switchboards. But when computer transmission switchboards turned up they were not covered by the monopoly, which applies solely to audio signals, and thus they could be sold freely. Combination telephone and computer switchboards can only be supplied by the telephone companies, however.

This development also involves the cheap, new and often advanced but not always high-quality telephones from the Far East. They may be sold but they are not supposed to be connected to the telephone network, although in practice the telephone companies are unable to supervise this.

## Political Factors

In addition to the fact that electronic developments have made all four of the areas mentioned one and the same area technologically, economic factors also call for major changes. Some things, such as telephones, have actually become much cheaper than they used to be. Others have become much more expensive, and there are exceptionally high development costs involved in building the new digital telephone exchanges.

The changes in the telecommunications sector have been reinforced by the political pressure in many countries to "deregulate" and privatize sluggish public monopolies.

The United States has taken the lead in this politically motivated deregulation and England and Japan have not been far behind, although they have not gone quite as far as in the United States.

In other European countries the licensed and publicly-owned telecommunications systems have also come under mounting pressure. But most countries are proceeding very cautiously, partly out of consideration for the national telecommunications systems and partly out of consideration for the firms that produce telephones and other equipment.

The production of telecommunications equipment has been protected for years. This has been justified on strategic military grounds and therefore this area has been exempted from the general GATT rules on free trade. In reality this is a question of protectionism. In practically all West European countries industries have been built up to supply telephones and switchboards and in practice they have been the sole suppliers for the national telephone companies.

Free competition in this area will inevitably lead to cutbacks within a few years on the part of those firms that are not--to use an expression often heard in the Danish telecommunications branch--on the leading edge of development.

The EC plans for a free internal market will help to spur this development.

#### Folketing

In Denmark Folketing is about to take the first step in the direction of liberalization. As in Sweden lawmakers are starting off modestly with the liberalization of the market for "extra equipment" for household subscribers.

One of the reasons for beginning there is that the technical consequences are easy to foresee and another is the very large volume of cheap imported telephones made in Asia, at least during a transitional period. It is true that people are not allowed to use these telephones in connection with the telephone company networks. But in practice the telephone companies cannot enforce this. The legislation that is expected to win approval would allow consumers to buy "extra apparatus," but the "primary apparatus," as it is called in the proposed legislation, must be supplied by the telephone company. The telephone companies will continue to have a monopoly on supplying all telephones to everyone except household subscribers, in other words business customers and the public sector.

Along with this liberalization, a system of state approval is being introduced to ensure the quality of the imported telephones. Free sale and use

will then be allowed. And it will be possible to impose penalties for the sale of unapproved equipment.

In other words the liberalization is a modest one. But the telephone companies in this country, GNT Automatic and Kirk Standard Electric, have sharply criticized the move, as might be expected because these are the firms that manufacture the telephones that are sold by the Danish telecommunications companies.

(A third rising telephone producer is B&O, which just came out with a telephone developed in cooperation with JTAS.)

GNT Automatic wrote in a letter to the communications minister and Folke-ting's Communications Committee, which covers the telecommunications sector, that of the 15 West European countries only three have carried out true liberalization policies that would make it possible for Danish firms to sell telephones to private customers in those countries. GNT rejected the communications minister's statement to the Folketing committee that free trade in the telephone field had been wholly or partially implemented in nine countries.

#### Industrial Council

Basically the Industrial Council supports a liberalization of the telecommunications sector. A free market for telecommunications equipment and for the use of the telecommunications network will stimulate the economic boom and improve the competitiveness of Danish businesses, it says in a little book, "Industry and Telecommunications--Liberalization or Monopoly," which the Industrial Council published in January--a few days before Traffic and Communications Minister Arne Melchior presented his proposed law on telephones.

Although the Industrial Council supports free competition in the telecommunications sector, the council shares the reluctance of the Danish telephone manufacturers to have the liberalization of the sale of telecommunications equipment start with "extra apparatus."

"We will have a situation where foreign telephone manufacturers can compete with Danish telephone manufacturers on the Danish market without the other countries opening their doors to Danish telephones. This can have serious side effects for Danish telephone manufacturers, especially if the liberalization is implemented very rapidly," said Industrial Council department leader Jorgen Stein. "And it does not help the Danish business sector at all. If one wants to liberalize quickly and with a minimum of negative effects on employment and exchange rates, one should begin with the use of the network."

According to the Industrial Council's little book, liberalization should be accomplished in three phases over a period of 3-5 years and liberalization of private telephones should not come until the second phase.

Traffic and Communications Minister Arne Melchior is aware that the free sale of telephones could have unfortunate consequences, such as the loss of jobs at the two Danish telephone manufacturing plants which in the past have been the sole suppliers of the telephones provided by the telephone companies. That is why the liberalization covers only extra equipment, he said in his presentation. Liberalization should proceed at the same rate of speed as in other countries, as much as possible, he said.

#### Network Usage

The industry and the business sector in general are not pleased that Arne Melchior has chosen different priorities for liberalization than those proposed by the private sector.

"They are doing this in the wrong order. Traffic Minister Arne Melchior did just the opposite of what we recommended," said deputy director Borge Clausen of the Agricultural Computer Center. Borge Clausen is chairman of the telecommunications group of the Industrial Transport Committee.

"The liberalization of the purchase of extra equipment by private individuals that is now taking place is not something the business community needs," said Borge Clausen. "What we need is the ability to freely purchase switchboard systems and modems. And the fact that they are imported would not harm Danish producers.

"We are not opposed to the telephone companies' retaining their monopoly on the facilities and physical operation of the telecommunications network, a monopoly they have held since 1897. They should continue to enjoy this monopoly. What we do object to is that the monopoly still applies to equipment that can be connected to the network and that the telephone companies also have a monopoly on the right to use the network.

"In principle the relationship between the telecommunications network and equipment should be no different from the relationship between the electric companies and the electrical equipment that people plug in at home. The electric companies do not interfere with how this is done as long as there is compliance with specifications and safety rules.

"The same thing must apply to the telecommunications sector. That is one of our basic viewpoints," said Borge Clausen.

"Another important viewpoint is that the telephone companies should not interfere with what the network is used for. We must be able to lease the lines we need and use them the way we want to. But this is blocked by the 1897 telephone law.

"The main thing is that we want free access and usage rights."

## Data Banks

Borge Clausen gave the example of his own outfit, the Agricultural Computer Center, which is a service bureau with 7,500 terminals over the entire country. Many of the customers, for example consultant centers that do computer work for the farmers who are connected with the Agricultural Computer Center [LEC], also need to obtain information from data banks in other places. For instance, Data Central has a data bank containing a lot of legal decisions on agricultural cases that consultant centers need to refer to now and then. LEC also has contacts with the services offered by all the major banks. A total of 20-25 data banks are available and more are being added.

Consultants also need to consult data banks in Brussels or at research centers in other parts of the world.

"If they try to do this in the traditional way, in compliance with the 1897 law, they have to call up each data bank themselves, which can easily require several different display screens and a familiarity with a number of different systems.

"But the service bureaus have fought hard for the right to relay requests via public telephone lines. This means that LEC has contacts with a number of data banks and thus the 7,500 connected terminals also have access to them via their connection with LEC. Since Data Central has contacts with a number of data banks in Europe via Euronet, Data Central can route calls through to them. It benefits the national economy if the same terminal can be used to reach a number of data banks. However the only way we can route these calls through is by getting a dispensation from the law. That is what we want to have changed before the integrated digital network is fully in place," said Borge Clausen.

With the establishment of service networks it is economically feasible even for small firms to make use of advanced computer services. Thus this is a question of the competitiveness of Danish firms, not just improving it but simply maintaining it, according to Borge Clausen.

Department leader Jorgen Stein of the Industrial Council added that if we get free access to the network, as Great Britain has had since 1981, it will create a basis for a new type of service bureau which because it has access to a number of computer services will be able to offer customers a number of services they cannot obtain now. However firms like this will not be set up on the basis of dispensations granted for a limited period of time.

In England more than 400 of these so-called network services in the telecommunications area have been set up since 1981 and they serve the entire European market.

An especially large number of service bureaus specializing in financial matters have been established and they have helped to maintain London's position as an international financial center.

Jorgen Stein: "Unless we are allowed to establish similar service systems and network services in this country, Danish industry will be unable to keep up with the competition in this market. An internationally known consultant firm, Frost & Sullivan, estimates that in Europe alone this market will involve 90 billion kroner in 1990. The market is growing at a colossal rate, considering that in 1984 sales amounted to 'only' 5 billion kroner."

Jorgen Stein emphasized that the new network services would actually increase the value of the telecommunications network itself. The idea is not to allow firms to make a profit by leasing a number of permanent lines between Copenhagen and Arhus, for example, and then subleasing them. That would undermine the finances of the telephone companies, because they would be left with the lines that are used the least. "What we are asking for," he said, "is the right to create what the English call 'value added networks.'" Incidentally, experience from England shows that this creates increased traffic on the telecommunications network--thus increasing the earnings of the telephone companies as well.

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ITALY

TELECOMMUNICATIONS MARKETS ANALYZED

Milan TECNOSINTESI MESE in Italian Sep 85 pp 14-23

[Text] Value-Added Network Services

The role of definitions is taking on growing importance worldwide from the standpoint of suitable formulation of the laws and regulations that govern the telecommunications sector. The distinctions between "telecommunications" and "data processing" or "basic" and "value-added information services" are a critical factor in determining which operators may be authorized to furnish which services and the conditions under which they may be authorized to operate.

The problem is a rather complex one, in that, technological, ecological and political considerations are all present at the root of the various definitions being proposed. In this regard, the International Institute of Communications, one of the most important and competent world-level research organizations, has completed a study and very recently published its conclusions under the heading: "From Telecommunications to Electronic Services: A Global Spectrum of Definitions, Boundary lines and Structures." This study was carried out with the active support of Meta Initiative and FOR [Future in Organization of Resources] of the Montedison Group. With simplification in mind and insofar as concerns the scope of this article, we will hold to the following definitions:

--"Basic communications services" are defined as those provided by way of telecommunications systems that merely "carry" information between transmitter and receiver in a transparent mode and without performing any operation on the logical structure of the communication;

--"Value-added services" may be defined as those provided by way of telecommunications systems capable of processing and/or memorizing messages so that some value is added to the information in transit between transmitter and receiver.

These definitions being stated and accepted, an immediate clarification is called for with regard to the concept of "service": In actual fact, and adhering to the terms of the definition, it can be stated that many data

processing users have long since installed data transmission systems that can be considered "value-added" systems. However, such systems have been developed on the basis of tight interconnections among the different components and particularly between the communications functions and the data processing functions. This mutual dependence was made more acute by hardware compatibility problems, with the result that systems were installed that were definitely capable of satisfying the user's requirements (as defined in the process of development on a case-by-case basis), but that were closely bound to the choice of applicative and technological solutions, with little or no room for variations, whether functional or technical.

In the case of modern "value-added services [VAS's], it is possible to add to the communication system a whole set of functions that can render the "data processing" component practically independent of the "information carrier" component.

With VA services, it is possible to use telecommunications to respond to a growing demand for applications which for all practical purposes is currently not being satisfied, inasmuch as it requires specific know-how and investments that, generally speaking, are beyond the reach of many users. This consideration introduces another attribute into the "service" concept: The user, whether private person or company, can make use of the service in a simple manner and in accordance with a tariff commensurate with the service provided, without having to bear the full cost of the investments involved or to have knowledge of the entire communications system.

Based on the foregoing definitions, and with simplification in mind, some examples of VA services can be cited: Retrieval of information in data banks; handling, storage and routing of messages; treatment of priorities and activation of access controls; conversion of transmission protocols; and conversion of transmission speed. These examples can be classified as basic or general "VA services."

While reaffirming the distinction between specific applicative content and the operation involved in the physical transfer of the information, it is clear that by combining the above-indicated functions with appropriate "utility functions," VA services may be extended to include also specific "communications applications"--for example: ordering and delivery operations; interrogation of sectorial data banks; electronic transfer of funds; electronic mail; telemarketing; etc. These examples can be classified as applicative "VA services."

It is possible to conclude that the harmonious development of VA services can result in benefits to all participants:

--To the public (or private) operators of basic telecommunications systems, in that, it provides them with the opportunity to increase the use of present networks and accelerate the returns on their investments needed to realize the new digital networks;

--To the suppliers of data processing and telecommunications facilities, in that, new marketing opportunities are opened for their products;

--To the users, in that, they can avail themselves of the new services, without direct commitment of their own funds, to improve the efficiency and productivity, hence the competitiveness, of their business endeavor.

#### User Demands

Mention has been made above of the growing demand for services suited to the realization of advanced applications via an efficient and, obviously, economical VA type of telecommunications network. The current situation is characterized by the following factors:

--In the EDP systems of large groups, there is an accumulation of generations of HW/SW [hardware/software] that have created several levels of reciprocal incompatibilities in the interchange of data and programs; this is owing to the diversity of the operating systems and of the systems of organization and management of data bases; to different communications protocols; and to terminal facilities with different degrees of intelligence;

--The need has grown to integrate the information systems of different types of businesses (for example, between suppliers and clients, banks and users of banking services, etc), exacerbating the problems of incompatibilities in the interchange of data and applicative programs;

--With the advent of multifunctional work stations, the opportunity is taking shape to locate the terminal of the external end-user (business or home) the common access point to several information systems; this factor, which breaks the rigid relationship between information processing system (CED) and user (terminal), requires a "federative" communication intermediation that only VAS's can provide.

The demand for new and sophisticated communications systems is further emphasized by a number of factors:

--The economic and applicative need to transmit, without distinction, voice, data, documents and images;

--The growing number of terminals to be controlled and the growth in density of traffic;

--The diffusion of intelligent terminals (personal computers); in particular, the need to make full use of their computing power (with sharing of the more expensive resources in terms of memory, peripheral units, etc) has given rise to a new type of network--namely, the LAN [local area network] --with the capability of using input/output ports towards other networks, keeping the peripheral and central data bases coherent and protected.

The capabilities of responding in a qualitatively adequate manner to all these demands and problem areas, and of converting and developing existing hookups to achieve an extensive and controlled "information interchange system," are now in great demand by the large firms in all sectors.

The demand for "value-added service projects" is therefore currently well defined and on the rise. The realization of such projects involves and requires the capacity and know-how to:

--Identify all the physical and logical incompatibilities that hinder dialogue between the components of the system and access to the data bases of common interest;

--Identify the interfaces required to overcome these incompatibilities;

--Find the necessary hardware and software solutions, involving either the use of standard products or the development of specific products;

--Develop supervisory systems to coordinate the various "network monitors," enabling overall control of the communications system.

Taken together, these capacities require know-how and investments that are not readily available to the using firms, which can therefore be expected to develop a growing demand for qualified engineering and professional "services."

Less visible and as yet largely latent is the demand for a universal VAS that would offer, on a national scale and to anyone applying for it, an efficient and economical communications service that would be profitable to the operator.

More easily identifiable, on the other hand, is the possible demand for "verticalized" sectorial VAS's (for distributional use, for example, for the Treasury, public health services, government administration services, etc), that enable the user to evolve gradually from the present situation of confusion to a standardized integrated communications capability, that safeguard the existing financial investments of the firms concerned and that are locked in step with the progressive rise of the "communications culture" among the end-user clientele.

#### Aims and Activities of a Telematics Engineering Firm

The foregoing paragraph has discussed the demand for new telematics services. Preparing to supply these services, and often in a conflicting manner, are: On the one hand, the telecommunications operators, bent on capturing information processing market share; and, on the other hand, the big information-processing producers, each seeking to enlarge its own market share by way of "single-source" standardization of the services involved.

Obviously, however, both these approaches assume the supplying of services of absolute generality, intended for a "terminal population" that is undifferentiated and tariffed on a metered basis. But the aggressiveness of the supply effort clashes head-on with the slowness with which the international regulatory entities are proceeding to define the "rules of the game."

The value-added services market thus remains substantially deregulated and, what is more, boils down to a demand that is still and everywhere more assumed than solidly-based.

Generally speaking, the competing suppliers are basing their initiatives on estimates of the value-added services market configured from the total number of terminal installations and an assumed overall growth. Although they propagandize the applicability of the traditional data processing market share to value-added services as well, they are unable to configure "isolated islands" of characterized demand yielding potentially reliable estimates of the evolution of the sector.

The hypothesis of a generalized inflow of applicative-type "value-added services" (occupying, that is, the most "distant" sector of the network spectrum) into the market assumes a far faster actual rate of demand growth, and a much more solid operative capacity, than are presently the case. Before assuming this hypothesis to be advantageous, the user in general (business or home) must somehow be able to foresee a communications architecture that can be the base of an information interchange "system" of interest to him or at least more effective than what is already available to him today in terms of ease of use, reliability, capillarity from the standpoint of distribution, and economy.

Addressing and resolving in a general manner the problems, including the socioeconomic ones, that underlie the potential for diffusion of the VAS's will require a span of time that is by no means negligible, and certainly not less than 5 years.

Within this timeframe characterizing the transitional phase of the present situation towards a more precisely defined services market, it is reasonable to suppose that, in any case, there will be a confluence of "integrated communications systems" being put into operation by the big structures (in the production and services sectors, public or private) and by individual professional corporations.

Purely by way of example, suffice it to cite here the interest being shown by the Government Stationery Office (for the Central Government Administration Department), Fiat and ENEL (for its private sector department); the banking market; the insurance market; tourism (for services); operators in the health-care sector (doctors, pharmacists, etc); marketing consultants; surveyors, engineers and architects; farm industry operators; big consumer sales organizations; etc.

Within these areas of interest, the greater sectorial specificity, the presence of a precise communications culture (thus far based on traditional methods that are beginning to show their limitations), and the qualitative and quantitative definability of the needed services and of the relative user population, lend reasonableness to the assumption of a forthcoming market opportunity.

Such opportunity is open both to the supply of "carrier services" and to the supply of "value-added services."

In the case in which the clientele is found to be financially centralized and to have the technical and capital resources to design, build and operate on its own the needed communications services, the supply function can be limited to the providing of the most effective carrier services. On the other hand, in the case in which reference clientele is not financially centralized, or not interested in or not equipped to implement or directly operate a telecommunications service, the supply function can be configured as the providing of a value-added service.

While in the first case, the public concessionaire becomes the interlocutor of preference, the second case opens a specific market niche for engineering and operating firms that are able to enter the marketplace with the required credentials and the necessary technical and economic resources, without altering the concept whereby the public carrier provides the transport services.

By way of example, the product such an operator could offer on the market --either in the form of a time-and-materials type of contract with project management responsibility (turnkey project), or via a subscriber-type contract with responsibility for operation of the service--should comprise:

- Analysis of the applicative context and design of the value-added services of interest for the specific environment;
- Planning of implementation or putting into operation of the telecommunications infrastructure, the processing systems, the work stations and the software necessary to the realization of the value-added services of interest to a specific client;
- Training of personnel and production of the supportive operational documentation;
- Operation of the service for the account of a specific client;
- Operation of tariffed value-added services;
- Maintenance and upgrading of services.

The positioning of the new organizational structure in the marketplace obviously puts it in competition with operators of the same type (although they are not numerous, even considering an international context), but also in cooperation both with the operators of the carrier services and with the suppliers of data processing and telematics facilities, so that it becomes at one and the same time a client and a generator of business. Its aim is neither to develop carrier services, nor to produce facilities on its own, but rather to concentrate on a specific telecommunications-intensive VAS offer.

In view of the foregoing considerations, a further specification may be added to the typology of the different projects that are realizable by a "telematics engineering" firm:

--Single-client projects, to the extent that they provide value-added services to meet the particular requirements of a given client, without, however, precluding a certain level of repetitiveness for other clients (for example, a project for a banking firm);

--Multi-client projects, to the extent that they provide VAS's to meet the requirements of various users and user firms (for example, an orderentry service project can serve various firms contemporaneously, each of which uses a "mail box" of its own, but uses the common system as the vehicle for its data). Such services lend themselves to a certain diffusion as tariffed services that can be offered to other similar users and user firms;

--"Federative-type" projects for clients, to the extent that they provide a service which, although initially commissioned by one or more clients, can be extended successively to other users of the same "category" (for example, a project for the electronic transfer of funds).

#### Telecommunications Technology and Competitiveness of Firms

The literature dealing with the strategies of firms for the coming years is characterized by a redundancy of terms such as "competitiveness," "advanced technologies," "communications," "information management," and "productivity."

From the standpoint of addressing these problem areas in depth, those relative to the "information revolution" are best brought to the forefront for discussion, as elements characterizing the new worldwide competitive scenario.

The importance of the availability of a complete analysis of the situation in being, as a basic requirement for business decisions, raises information to the status of a fundamental instrument in the growth strategies of the firm, vesting it with a real "economic value" of its own.

Traditional data processing having now gained recognition as an operational methodology, attention is now shifting towards a broader meaning of the term "information," which integrates that relative solely to digital data with its further components: text, voice and images.

And going still further, the processing function as such is being combined with the functions of generating and carrying the data to provide integrated management of the firm's internal "know-how".

This technological evolution has been followed by a restructuring of the demand for services that has shifted from that of the mere processing of data (Service Centers) to that of providing information (Data Banks), to that of its distribution (telecommunications), and to mixed ones (VAN [value-added network] services).

However, the characteristics of the telecommunications sector, the rapid evolution of the technologies, and the problems relative to the regulatory function, call for a strategy of broader scope.

The fact is that technology today represents one of the principal competitive elements. It plays an extremely important role both in the structural changes of firms and in the creation of new business activities. In particular, the technologies of information and communications systems are of major importance in all sectors of a business firm. All that is needed is to determine operational priorities; that is, to analyze in what sections of the firm's operations the technology of communications will yield competitive advantages from the standpoints of cost reduction, increased productivity, and possibilities of differentiating and producing new services.

Telematics actually has a positive impact not only on the primary activities of firms, but also on their support activities, specifically, that is, on their services activities: supply and logistics services, marketing activities, and the services provided to their clientele.

Consider, for example, the possibility of revolutionizing the supply system by changing ordering procedures, facilitating direct link-ups with suppliers, and more accurately monitoring stock movements and waiting periods; and still further, the impact that can be had on work organization and productivity and on a firm's internal communications, by way of office automation systems.

Furthermore, business-oriented innovation based on information technologies often translates into additional advantages for the firm or firms first able to put them to good use and to not only create a barrier to entry by others but also to broaden their sectors of activity.

Nevertheless, the development of modern information technologies in a firm's different areas must be coordinated and planned with a view to

ensuring its consistency with its aims and to realize the potentials in interrelations and synergies; it must also be assured that the technologies being applied are actually optimal, which means also possessing the know-how involved.

#### Meta Initiative and the Telecommunications Sector

The growing importance of telecommunications is undeniable. Telecommunications already represents, in itself, a major service area, besides being the infrastructure for the competitive development of the services business.

Thus, it is a strategic sector for Meta Initiative and for Datamont, the Meta Group firm that currently operates in this sector. Its activities have evolved in step with the variations in requirements on the part of its clients, both domestic (Montedison Group firms) and foreign, fulfilling a specific role in this sector. Operation of one of the most extensive private telecommunications in Italy, development of network services for the Group's end-users, its realizations in the telephony sector, and the projects it has realized in the field of local area networks are all activities that have enabled Datamont to gain a specific knowhow and to position itself as one of the best-prepared Italian firms in this sector.

The decision to operate in the telecommunications and advanced telematics sectors appears as a natural choice for Meta Initiative, it being in these sectors that the opportunities are taking shape for synergy and integration of services that are the firm's specific targets, and that present activities converge with the fascinating potentials in the field of VAN services.

It must also be considered that the need to guarantee the development of telecommunications in Italy can only be satisfied within a legislative and regulatory frame of reference that is clear and open to participation both by the public entities and the private sector. Furthermore, this frame of reference cannot be decoupled from the international context.

The growing importance of communications, taken both as a service in itself and as the fundamental infrastructure for the development of all the other tertiary sectors, requires the interest and direct commitment of Meta Initiative, the first "services system" to be created in Italy.

What are required are direct and present incentives, connected both to Datamont's present and future activities in the field of telematics, and to other activities with developmental potential, considering also the active role of potential major telematics user the Montedison Group represents. Given these incentives, Meta Initiative can move forward not only by way of operating-type activities, but also, and with particular attention, towards the development of a specific culture and the acquisition of experience in a context of direct contacts on an international level.

These considerations are at the root of the attention Meta Initiative is devoting to the international picture and its communications problems, which have become increasingly decisive from the standpoint of consolidating and developing new opportunities.

One of the recent steps taken in this direction by Meta Initiative--in joining the International Institute of Communication, and as the first Italian corporate member of the organization--is taking on growing importance.

To date, Italy has been represented in the IIC solely, for all practical purposes, at an individual level. Moreover, the links among the Italian members are minimal or nonexistent. Thus, a further possibility for Meta, as the first Italian corporate member, is that of becoming the leader of an Italian section of the IIC.

Because of its characteristics, the budding Italian section could become, within a very short time, a reference point for many industrial and institutional interests in the data processing, telematics and telecommunications field (which is closer to Meta's immediate interests) as well as in the fields of space technology, public and private radio and television, and the printed media.

To illustrate the importance of international relations in this sector, Meta Initiative had the opportunity of participating, as the sole Italian firm, in the IIC's multinational study designated "Multinational Study of Evolving Telecommunications and Information Structures and Policies." The other organizations that participated in the study are: AT&T and Citicorp [United States]; Cable & Wireless and Reuters (Great Britain); the European Community Commission; Canada's Department of Communications; the French General Directorate for Telecommunications; the West German Ministry of Posts and Telecommunications; Nippon Telegraph and Telephone and MITI (Japan); and MTV/Nokia Oy (Finland).

The work was coordinated by Robert Bruce, former counsel of the Federal Communications Commission of the United States.

Further underscoring the importance accorded to this project not only by Meta but also by the entire Montedison Group is also the contribution made to the project by the FOR [Future in the Organization of Resources]. Using also as a basis the outline of the IIC's international project, FOR undertook a research project on "Telematics Growth Prospects in Italy," which was considered a valid addition to the IIC's work, and which was presented at the IIC's annual conference in Tokyo last September.

FOR's very structure also underscores the importance being attributed to "information" by Meta and by the entire Montedison Group.

FOR is an association that specializes in research, studies and projects relating to the operation and management of the cutting-edge activities involved in Montedison's spheres of endeavor and in the Italian productive structure.

The association was formed in March 1984 at the initiative of Montedison, which, as a founding partner, wanted, in this manner as well, to attest within the Group and the Italian and international business worlds that the time has come for the big Italian private firm to think in terms of an international culture and projects.

FOR has chosen to operate in areas of endeavor such as industrial and international policy; state and market; regulation and deregulation; revision of relationships between the public and private sectors; innovation and technology; new products and new services; and the diffusion of new technologies.

The foregoing discussion has all been aimed at highlighting the manner in which Meta Initiative is taking on, with respect to the telecommunications sector, a dual active role as a major user and operator, and what activities in that sector have been undertaken to date. Different authors have given different definitions of an "information company"; however, these can be summarized as follows: "An information firm is characterized by a quantitative and qualitative abundance of information not divested of the necessary instrumentation for its efficient distribution. This information is easily, rapidly and effectively distributed and converted into the form and for any purpose whatever required by the end-user."

This definition permits us, among other things, to put to good use the undeniable interrelationships that exist between the technologies of communications and those of office automation, the latter being an application that will be taking up a growing share of Datamont's engineering talent.

The production and distribution of information is an economic activity of considerable import. This is even more true of the services sector, where information represents, at one and the same time, a firm's "resources," the object of its business, and a decisive competitive factor.

A future as an "information company" is assured for those firms that are armed with creativity, productivity and a sense of the future.

Creativity includes imaginativeness and entrepreneurship, two conditions that can be developed and amplified through a reduction of routine tasks, which must be automated, and of the enormous quantity of information in hand.

Productivity is increased by automating the information processing procedures and by creating an adequate business "culture."

A sense of the future is exhibited in the ability to anticipate the solutions facilitated by new technologies--in other words, in the ability to gain competitiveness through development of the firm's capabilities, by motivating the involvement of its human resources in the information automating processes and the transformation of these resources from mere spectators to players in the game.

From a practical standpoint, all that has been said above underscores the need for Meta Initiative to further develop its involvement in the telecommunications sector and particularly in the area of the so-called "value-added services," bearing in mind the scenario and the factors that currently characterize the sector.

As has been pointed out, the importance of the communication of information is assuming an increasingly relevant aspect from the standpoint of the competitiveness of firms. In the very recent past, there has been a growing tendency on the part of the bigger operators in different business sectors to build their own private data transmission networks.

However, the varying accruals of user demand, the presence of diverse solutions offered by suppliers, and the lack of an economical and efficient public network have created new problems: levels of mutual incompatibilities in the interchange of data, diversity of systems, terminal equipment with varying degrees of intelligence, etc. The need has also grown to integrate information systems of different firms (suppliers, clients, banks, etc), exacerbating the foregoing problems of incompatibility and requiring new solutions encompassable today in the term "value-added network services." The latter, though still awaiting a sole definition acceptable on an international scale, will in any case represent a vast market within the next few years for the basic communications agencies as well as for new services companies. VAN services will make it possible to respond to a growing demand for applications which, practically speaking, is presently not being satisfied, in that, it requires specific know-how and investments that, generally speaking, are beyond the reach of a large number of users.

The dynamics of these projections are, in Italy as well as abroad, not those typically deriving from entities that dominate the telecommunications market; rather, the pressures towards regulatory and technological conditions that will facilitate the development of VA services are being generated by the competitive private sectors and by industrial and technological developments. In fact, situations of uncertainty are being met with on the part of the public telecommunications agencies and of the major suppliers of equipment.

In Italy, the thrusts of current regulatory action and of the bills before Parliament, while providing for a redistribution of responsibilities among the agencies that control telecommunications, will reinforce the monopolistic position of the public agency as regards the basic services.

Development of VA services is possible, even in connection with the public network for the "carrier" function, in a substantially deregulated environment, where the public agency must also act in open competition with private entities. The latter can either act as competitors of the public companies or seek to sign cooperative agreements with them.

In conclusion, it must be borne in mind, with regard to this scenario, that many companies of the Montedison Group already represent, as of today, potential clients for a VAS company with the urge to undertake and realize new projects within the near term in the area of telecommunications.

It should also be borne in mind that Meta Initiative, which already operates in the communications services sector and which has recently taken steps to increase its cultural baggage in the international context, must be present in this market to satisfy the internal needs of the Group, as well as to take advantage of the promising opportunities of the foreign market. Considering the current legislative uncertainties, it could be over-ambitious, or in any case highly risky, to operate in open competition with the public agency. On the other hand, there is the possibility, in the area of private operation, of attracting some activities that are presently a public monopoly, with advantages for both sides.

[Box, pp 20, 21]

#### Value-Added Services Market Projections

##### European Market

A recent international study by Frost and Sullivan has assembled a forecast of the growth of the VAS market in Europe, which has included consideration of the areas of risk and uncertainty, particularly those of a regulatory nature, present in the sector. The data compiled can be considered sufficiently indicative to estimate the total value this market could attain within the next several years. The projections have been formulated in accordance with the following conditions:

--Revenues are related solely to the supplying of the services and do not include values relative to investments for equipment and its maintenance (which are evaluated separately);

--Insofar as possible, an estimate has been made of the revenues relative to the information "carrier" services which are the province of the public telephone agencies. No estimate has been made of the revenues deriving from the system design and operating activities necessary to provide the services;

--Estimates are related to the business-user sector and do not consider the potential supplying of services to the home-user sector;

--Many VAS's will be developed solely for domestic use by firms; in this case, the relative value considered has been solely that of the impacts on the supplier of the carrier network.

The services have been classified as follows:

--Services via cable, not using the PTT network;

--Access to data banks, comprising on-line information services available to subscribers;

--Radio services, consisting of radiotelephone services in which messages are transmitted over a mixed telephonic network and actuated via radio links;

--Security services, comprising all services provided via telephone, leased line and radiotelephone facilities to organizations dedicated to security;

--Support services, consisting of network-based conversion, applicative software, instruction and protective services provided to business users;

--Teleconference services;

--Telemarketing services;

--Text and message services, comprising electronic mail service and fund transfer services between banks and on credits and debits to and from personal accounts;

--Video and image services, comprising the sending of text and graphics;

--Videotex services;

--Voice-data services, comprising all services put on the market by voice technology.

The following tables recapitulate the European market projections relative to each specific service category and country. Projections are also shown for revenues from the supplying of services and for revenues deriving from the use of the public communications networks. Total investments in telecommunications and data processing equipment necessary for the realization of service systems are treated separately (see tables).

It should be borne in mind that these investments are not necessarily to be considered as "new," in that, the nature and purposes of VAN services will be such that already-installed facilities can be used. Furthermore, a substantial portion of these investments would have to be made independently of the development of VA services.

[Note: Monetary unit(s) for following 5 tables not given]:

Revenues From Value-Added Network Services by Service Category (Millions)

	1986	1987	1988	1989	1990
{1} Servizi via cavo	1,3	2,4	6	10	15
{2} Servizi di database	578	722	886	1080	1320
{3} Servizi radio	157	320	465	610	800
{4} Servizio sicurezza	116	152	194	241	292
{5} Servizi di sostegno	50	88	117	150	240
{6} Teleconference services	5	8	11	17	26
{7} Servizio di Telemarketing	8,5	14	23	34	58
{8} Servizi testo e messaggio	60	136	466	882	1265
{9} Servizi video e immagine	110	145	290	375	540
{10} Servizi videotex	111	204	345	525	740
{11} Servizi voce	27	65	140	240	410
<b>Totale</b>	<b>1223,8</b>	<b>1856,4</b>	<b>2943</b>	<b>4164</b>	<b>5706</b>

Key:

1. Cable services.	7. Telemarketing services.
2. Data-base services.	8. Text and message services.
3. Radio services.	9. Video and image services.
4. Security services.	10. Videotex services.
5. Support services.	11. Voice services.
6. Telecommunications services.	

Revenues From VAN Services for PTT's or Other Suppliers of Telephonic Networks (Millions)

	1986	1987	1988	1989	1990
{1} Introiti per "PTTS"	382,5	656	1201	1769	2461
{2} Incidenza %	31,2	35,3	40,8	42,5	43,1
{3} Introiti per altri fornitori di servizi	841,3	1200,4	1742	2395	3245
{2} Incidenza %	68,8	64,7	59,2	57,5	56,9
<b>Totale</b>	<b>1223,8</b>	<b>1856,4</b>	<b>2943</b>	<b>4164</b>	<b>5706</b>

Key:

1. Revenues for PTT's.
2. Incremental impact in percent.
3. Revenues for other suppliers of services.

Market Projections for VAN Services in Western Europe From 1984  
Through 1990 by Country (Estimate in Millions)

	1986	1987	1988	1989	1990
(1) Germania occidentale	233,6	361,4	585	828	1134
(2) Francia	224,6	344,1	546	775	1063
(3) Gran Bretagna	313,4	455,7	711	1005	1375
(4) Italia	122,6	175,5	282	400	548
(5) Scandinavia (**)	123,8	186,2	292	410	561
(6) I restanti 9 paesi (*)	205,8	333,5	527	746	1025
<b>Totale</b>	<b>1223,8</b>	<b>1856,4</b>	<b>2943</b>	<b>4164</b>	<b>5706</b>

\*Spain, Portugal, Netherlands, Luxembourg, Greece, Switzerland, Austria, Iceland.

\*\*Denmark, Finland, Sweden, Norway.

**Key:**

1. West Germany.	4. Italy.
2. France.	5. Scandinavia.**
3. Great Britain.	6. Remaining 9 countries.*

Investments in Telecommunications Equipment to Support VAN Services  
in Western Europe From 1986 Through 1990 by Country (Millions)

	1986	1987	1988	1989	1990
(1) Germania Occid.	188,1	264,3	344,3	426	532
(2) Francia	173,6	252,9	338,2	437	540
(3) Gran Bretagna	178,7	252,2	340,5	434	538
(4) Italia	124,9	179,5	236,3	303	378
(5) Scandinavia	117,4	171,3	224,2	290	364
(6) I rimanenti 9 paesi	187,5	264,5	345,4	436	548
<b>Totale</b>	<b>970,2</b>	<b>1384,7</b>	<b>1828,9</b>	<b>2326</b>	<b>2900</b>

**Key:**

1. West Germany.	4. Italy.
2. France.	5. Scandinavia** (see footnote above).
3. Great Britain.	6. Remaining 9 countries* (see footnote above).

Investments in Telecommunications Equipment (Millions)

	1986	1987	1988	1989	1990
{1) Telefoni	99	138	173	201	289
{2) Data equipment	145	199	246	297	383
{3) Terminali	176	254	326	399	491
{4) Radio telefoni	24	49	83	146	243
{5) Pagers	34	71	145	200	244
{6) Facsimile	354	411	463	505	534
{7) Computer equipment	99	191	283	390	474
{8) Vari	38,2	71,7	109,9	188	251
<b>Totale</b>	<b>970,2</b>	<b>1384,7</b>	<b>1828,9</b>	<b>2326</b>	<b>2900</b>

**Key:**

1. Telephones.	5. Pagers.
2. Data equipment.	6. Facsimile.
3. Terminals.	7. Computer equipment.
4. Radiotelephones	8. Miscellaneous.

[Boxed material p 22]:

Value-Added Services Market Projections [cont'd]

Italian Market

Using the data provided by Frost & Sullivan relative to the European market and assuming their hypothesis and considerations to be valid, the following projections were extrapolated for the Italian market.

In this case as well, revenues from the supply of services via public carrier facilities and equipment have been treated separately.

[Tables follow]

[Note: Monetary unit(s) for following 3 tables not given]:

**Italy: VAN Services Revenues for Suppliers of Services (Millions)**

	1986	1987	1988	1989	1990
(1) Servizi via Cavo		0,10	0,60	1,00	1,60
(2) Servizi di database	37,00	41,00	50,00	63,00	85,00
(3) Servizi radio	9,00	16,00	27,00	36,00	46,00
(4) Servizio sicurezza	9,00	13,00	17,00	21,00	27,00
(5) Servizi di sostegno	2,40	4,37	6,16	7,53	10,13
(6) Teleconferenze	0,16	0,19	0,25	0,37	0,55
(7) Servizio di telemarketing	0,49	0,79	1,32	1,98	3,53
(8) Servizi testo e messaggio					
(9) a) posta	0,57	2,55	14,10	32,24	53,84
(10) b) trasferimento fondi	1,40	1,60	2,40	4,00	7,00
(11) Video and image	2,48	3,49	8,35	11,20	12,30
(12) Servizi videotex	2,59	3,58	5,00	7,11	11,00
(13) Servizio voce	1,11	2,80	5,42	8,75	13,90
<b>Totale</b>	66,20	89,47	137,60	194,18	271,85

**Key:**

1. Cable services.	8. Text and message services.
2. Data-base services.	9. Postal.
3. Radio services.	10. Funds transfers.
4. Security services.	11. Video and image services.
5. Support services.	12. Videotex services.
6. Teleconference services.	13. Voice services.
7. Telecommunications services.	

**Italy: VAN Services Revenues for SIP (Millions)**

		1986	1987	1988	1989	1990
(1)	Servizi via cavo					
(2)	Servizi di database	4,28	4,89	6,07	7,87	10,89
(3)	Servizi radio	2,67	4,89	7,39	9,75	12,41
(4)	Servizio di sicurezza	15,28	20,49	24,74	31,17	37,62
(5)	Servizi di sostegno	1,60	3,63	3,84	4,47	7,87
(6)	Teleconferenze	0,24	0,31	0,35	0,53	0,85
(7)	Servizio di telemarketing	0,11	0,21	0,28	0,48	0,57
(8)	Servizi testo e messaggio					
(9)	a) posta	1,33	4,75	20,90	37,76	46,16
(10)	b) trasferimento fondi	1,40	2,34	2,97	3,84	6,60
(11)	Servizi video e immagine	14,52	18,51	35,65	44,80	67,70
(12)	Servizi videotex	4,41	7,42	13,00	19,89	27,00
(13)	Servizi voce	3,89	9,20	19,58	33,25	56,10
	<b>Totale</b>	<b>49,69</b>	<b>76,64</b>	<b>134,77</b>	<b>183,75</b>	<b>273,77</b>

**Key:**

1. Cable services.	8. Text and message services.
2. Data-base services.	9. Postal.
3. Radio services.	10. Funds transfers.
4. Security services.	11. Video and image services.
5. Support services.	12. Videotex services.
6. Teleconference services.	13. Voice services.
7. Telemarketing services.	

Italy: Investments in Telecommunications Equipment to Realize VAN Services

	1986	1987	1988	1989	1990
{1} Servizi via cavo		0,2	0,4	1,2	1,8
{2} Servizio di database	16,0	21,0	26,0	33,0	43,0
{3} Servizi radio	4,0	7,0	9,0	12,0	17,0
{4} Servizio di sicurezza	14,0	22,0	30,0	36,0	45,0
{5} Servizi di supporto	1,4	2,0	3,0	4,0	5,0
{6} Teleconferenze	0,4	0,6	0,9	1,4	2,3
{7} Telemarketing	0,4	0,7	1,0	1,4	1,9
{8} Servizi testo e messaggio	8,0	15,0	21,0	31,0	44,0
{9} Servizio video e immagine	60,0	71,0	82,0	84,0	105,0
{10} Servizi di videotex	20,0	38,0	58,0	79,0	95,0
{11} Servizi voce	0,2	2,0	5,0	10,0	18,0
<b>Total</b>	<b>124,9</b>	<b>179,5</b>	<b>236,3</b>	<b>303,0</b>	<b>378,0</b>

**Key:**

1. Cable services.	7. Telemarketing services.
2. Data-base services.	8. Text and message services.
3. Radio services.	9. Video and image services.
4. Security services.	10. Videotex services.
5. Support services.	11. Voice services.
6. Teleconference services.	

9399  
CSO: 5500/2653

ITALY

BRIEFS

JOINT VENTURE WITH YUGOSLAVIA--Announcement has been made of the forming of Ei Digitel, as a result of the joint venture between Italcom, a company whose principal owner is Italtel (IRI-STET Group) together with GTE and Telettra, and Elektronska Industrija Nis, one of the principal Yugoslav industrial groups in the electronics sector. Ei Digitel will produce and market in Yugoslavia the Italian national system's digital public switching type of exchanges. The agreement, which stipulates the terms and conditions and the developmental schedule of the new company, was signed by Marisa Bellisario, managing director of Italtel, by Sergio Treves, president and managing director of GTE Telecommunications, and by Ljubisa Igic, president of the Elektronska Industrija Group. The system, based on a distributed control architecture, considered to be among the most innovative today, is in service in Italy with over 150 exchanges and is designed for evolvement towards the ISDN [Integrated Services Digital Network]. Italcom, with a 35-percent share in the joint venture, will provide the licenses and the production facilities for the manufacturing of the exchanges; Elektronska Industrija will provide infrastructures and local facilities and the current capital for the startup of the company. Italcom and Elektronska Industrija together will provide the research necessary to adapt the switching systems to the Yugoslav market. Investments of the order of \$12 million are planned for the production of the Italian digital switching system in Yugoslavia. The Yugoslav market is of particular interest to Italian industry in view of the close-knit relations between the two countries. By the end of the 1986-1990 5-year period, Ei Digitel is expected to be in a position to capture a 40-percent share of the digital public switching sector in Yugoslavia, a share that would correspond to an average annual volume of 100,000 lines. [Text] [Milan IL GIORNALE in Italian 26 Mar 86 p 10] 9399

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NORWAY

TELECOMMUNICATIONS AGENCY DIRECTOR ON PROBLEMS, PLANS

Oslo AFTENPOSTEN in Norwegian 7 May 86 p 42

[Article by Ulf Petter Hellstrom: "Telecommunications Agency Buying Extra Equipment"]

[Text] The Telecommunications Agency will have to make extra purchases and take other steps while waiting for the delayed delivery of digital telephone exchanges from the Standard Telephone and Cable Factory [STK]. STK will have to foot the bill.

The lack of trained people is a major problem for the big state agency which is requesting expanded authority to pay key personnel an adequate salary.

The Telecommunications Agency's finances are good and productivity has improved. The problem lies in the new data services.

These were the key points made at the Telecommunications Agency's press conference yesterday at which the agency presented its final figures for 1985. Managing director Kjell Holler called last year's results very satisfactory. The Telecommunications Agency is using its financial capacity to make substantial depreciation increases. The increase from 1984 to 1985 was as much as 25 percent.

Major Delays

The delay in STK's deliveries of the System-12 telephone exchanges was obviously concerning the top management of the Telecommunications Agency. Holler said that almost all phases in the development process have run into sizable delays. The delays vary from 10 weeks all the way up to a year.

"We can now say that the further development of the System-1240 exchange was underestimated by STK and ITT," Holler said at the press conference. Technical director Ole Petter Hakonsen stressed that the Telecommunications Agency had worked out the future-oriented specifications so that it would later have a system that was as advanced as possible. In other words, the agency's requirements were so stringent that no supplier had a finished system that would meet them. When the Telecommunications Agency entered into

an agreement with STK following a round of international bidding, the agency was well aware that a great deal of development work remained to be done.

#### Test Problems

The delays are primarily due to a number of problems that arose during the development of data programs in the telephone exchanges. Special test procedures are now causing problems. The technical division of the Telecommunications Agency in cooperation with other agency divisions analyzed the consequences of the latest delays. The agency does not want the delays to lead to more waiting lists or problems in handling telecommunications traffic.

That is why the Telecommunications Agency has now decided to install extra equipment in the telephone network. Some of it will come from the agency's own emergency stockpiles--this involves equipment based on so-called analogue technology--and some--telephone exchanges--will have to be purchased. In the latter case the agency wants to purchase digital or semidigital exchanges. The agency expects other suppliers in addition to STK to participate in delivering these purchases. This opens the door for the EB group, which lost the fight for the billion-kroner contract in 1983. The management of the Telecommunications Agency would not discuss the size of the orders because negotiations are not yet completed.

The System-12 delays from STK primarily involve an exchange to be delivered to Lillestrom. This delay will cost 3 billion kroner, with delivery now scheduled for September. The Oken exchange has also been delayed and that delivery is scheduled for September too. The Telecommunications Agency revealed that other deliveries are also subject to delays averaging around 5 months for the first 2 order years, while delays are not quite as great for the last 2 years of the contract period.

#### Teledata Service

The Telecommunications Agency would not set another date for starting up the new teledata service. "Before summer vacation," they said at the press conference. This service has been delayed several times. The official starting date was originally scheduled for 28 April, but a postponement was necessary.

In the agency's external balance sheet its profit was given as 856 million kroner. That is somewhat lower than the previous year. Calculated on the invoice principle, the profit was 1.05 billion kroner, representing a decline of 300 million kroner compared to 1984. Last year operating income added up to around 10 billion kroner.

#### Unfilled Jobs

The Oslo telephone district now has 40 unfilled engineering jobs out of a total of 350, the Oslo telephone district revealed during the press conference. The data transmission service is struggling with a massive turnover of skilled workers. As many as 27 of a total of 36 engineers in this area were recruited in the last 9 months. It takes about a year to train engineers

in this area. A job as technical head of automation technology has been vacant for a year. Problems like this are now contributing to longer delivery times and the time it takes to correct errors in the system. Personnel director Lillian Krokan strongly supported expanding the ability to pay higher wages so that the Telecommunications Agency can compete for the skilled workers it needs so badly.

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CSO: 5500/2674

NORWAY

EB GROUP WINS TELECOMMUNICATIONS CONTRACT FOR OIL TERMINAL

Oslo AFTENPOSTEN in Norwegian 25 Apr 86 p 40

[Article by Rolf L. Larsen: "Twenty-Eight Million Kroner Worth of Advanced Equipment for Mongstad: Important Telecommunications Contract to EB [Elektrisk Bureau]" ]

[Text] The EB group through its EB Engineering division has gotten the contract for the comprehensive telecommunications, alarm and monitoring systems which are to be built for the new petroleum terminal at Mongstad. The contract with Statoil is for 28 million kroner and deliveries will be finished in the fall of 1988. The EB group won the contract in a stiff international competition.

"This is the largest contract we have received for a land terminal and it will be a very important reference in the international market," EB Engineering Director Jan Henrik Krefting says to AFTENPOSTEN.

Both the expansion and upgrading of the refinery at Mongstad and the construction of Statoil's new petroleum terminal are included in the project. EB Engineering will be responsible for the systems design and engineering, equipment orders, installation and putting things into operation.

On the equipment side the contract means the supplying of advanced technical equipment, both within radar-based systems, radio equipment and alarm and TV monitoring systems. Fiber optics will be used to a great extent.

EB Engineering since early in the 70's has supplied equipment and communications systems to permanent sites, pipeline installations and oil and gas facilities both in Norway and in the international market. The first contract in the North Sea was for Ekofisk in 1975, and more recently EB has supplied total communications packages to Statpipe and Gullfaks A, B and C. Up to now the firm has had over 200 million kroner worth of commissions from Statoil, before the Mongstad contract.

About 50 percent of orders from EB Engineering today go to international markets. Both the Middle East and Far East have been important areas since early in the 80's. The Mongstad contract will therefore be of great importance for our international customers. It confirms that we have the

competence to complete a major assignment consisting of a high-grade and varied technological product.

In order to be able to make a breakthrough internationally we must first be able to prove that we have been successful in competition in the domestic market, Director Krefting says.

EB Engineering employs 110 people today. Most are specially educated professionals who use computer-aided design and advanced project management tools. The firm will use a number of subcontractors for the Mongstad project in order to ensure the best possible price and quality. Totally, about three quarters of orders will come from Norwegian firms.

8831

CSO: 5500/2658

PORUGAL

BRIEFS

PARTICIPATION IN ESPRIT--Within the framework of the relations between Portugal and the EEC, a contract was signed according to which a Portuguese nonprofit private institution for scientific investigation will participate in the Delta Four program of the Esprit project. The program will cost 286,000 contos, half of which will be financed by the EEC. The organization in question is the Systems and Computers Engineering Institute (INESC), which is celebrating its fifth anniversary this year, and in which the technical universities of Lisbon and Porto participate, as do the CTT/TLP [General Administration of Post Offices, Telegraphs and Telephones/Telephone Workers of Lisbon and Porto], as well as the Marconi company. The project is under the direction of the Ferranti firm (Great Britain) and the Bull company (France). The ANOP [Portuguese News Agency] specifies that the Delta Quattro project is a system of various units connected by a network which continues to operate even if some breakdowns occur in some of the units. The Portuguese institute will be responsible for one of the phases of the system, the connection of the machines to the network. [Text] [Lisbon O JORNAL in Portuguese 29 May-5 Jun 86 p 24] /6091

CSO: 5500/2690

SPAIN

NEGOTIATIONS BEGIN ON NATIONAL TELECOMMUNICATIONS PLAN

Madrid DIARIO 16 in Spanish 21 Apr 86 p 17

[Article by Tania Juanes]

[Text] Madrid--According to the draft LOT [Telecommunications Regulatory Law] bill drawn up by the Ministry of Transportation, the said Ministry will prepare a national telecommunications developmental plan. This plan, which is to be strategic in nature, is to be finalized within 1 year following enactment of the law.

The plan will set long-term, possibly 10-year, objectives, which will be reviewed and updated each year, DIARIO 16 was told by the director general of telecommunications, Javier Nadal. It will also include a medium-term, 4-year, strategy, which will set the immediate objectives.

Telematics

Overall, the objectives of the plan will be the charting of a telecommunications developmental policy and the introduction and expansion of several services within the country. According to the director general of telecommunications, this plan--which will be negotiated with the business firms pertaining to the sector--will involve some heavy investments, the funding of which will also be laid down in the plan, as regards not only the private firms but also the banking industry and the Administration.

Javier Nadal indicates that this strategic plan's objectives will include the introduction of certain services, such as those related to telematics. This is the case of teletext and videotex. The Administration will also regulate and promote the startup and investment programs for services, such as cable television; the latter is to be studied on a medium-term basis, although the enabling legislation is expected to be enacted within the very near future.

Another of the plan's objectives will be the expansion of telephone services within the country at an accelerated rate, especially where these are most lacking, as in Galicia and Asturias. As viewed by the director

general of telecommunications, these objectives, taken as a whole, will provide a major stimulus to the development of the telecommunications industry in Spain on the part of both the national sector and that of the multinationals established in the country. The plan will also lay down a policy of investment in research and technology and product development.

With this plan, which is being projected under the LOT, the Government will assume a fundamental role in the development of telecommunications, which is presently in the hands of CTNE [National Telephone Company of Spain].

#### Liberalization

As for the LOT timetable, Javier Nadal indicates that the rough draft will be negotiated and consulted with those of the sector's firms and organizations that would be affected by the law, during April. It will then be forwarded to the Committee of Under Secretaries and to the Council of Ministers, before summer. The law is expected to be passed by the Parliament during the current legislative session.

Aside from its other aspects, the law is going to initiate a process of liberalization of the telecommunications sector.

Despite the consequences this policy may entail for some firms that are presently "sheltered" by CTNE purchasing commitments, the director general believes that it will serve to stimulate competition in the industry installed in Spain.

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CSO: 5500/2667

SPAIN

CULTURAL MINISTER DISCUSSES PRIVATE TV CRITERIA

Madrid TIEMPO in Spanish 14 Apr 86 pp 19-20

[Interview with Cultural Minister Javier Solana by Nativel Preciado; date and place not specified]

[Excerpts] [Question] Private TV has arrived at last but the government proposal has been unanimously rejected.

[Answer] Yes, it's true. And what's most interesting is that they have criticized it before they knew the content of the law. It's strange that some of them, who have very little probabilities of winning an election, announce that they will repeal the law before they know what it is. Look, this government, which has been so often accused of blocking freedom of expression, is precisely the one that returns to society those traditional communications media of the state and the one that brings private TV to it. Other governments of the right, many of which call for freedom of expression, had the same opportunity to do it and they did not do it.

[Question] Why were they so determined for such a long time in blocking private TV?

[Answer] At the outset, we thought that television should be a public service that was governmental in character and we did not perceive any advantage accruing to the public for television to be otherwise.

[Question] What made you change your mind: generosity, pressure or certain interests?

[Answer] Nothing of the kind. As time went by we saw that technological criteria were going to impose the establishment of private TV. When we were convinced of that we began to work to make it possible.

[Question] Don't you have the feeling that many persons are going to flounder in this enterprise?

[Answer] I have the impression that many of those who have demanded it with greater impatience have failed to do the studies needed to ascertain if they

are capable of establishing a television station. There are a lot of surprises awaiting private TV.

[Question] The opposition says that the government stands to lose its yearning to be in control; that it will not allow anything to slip from its grasp.

[Answer] Whoever says that has not read the law. We have drafted a bill that is short on regulation, brief, open to future possibilities, especially to innovations of a technological nature.

[Question] Control over communication media has given the socialists excellent results.

[Answer] It's surprising to hear that the left in Spain exerts control over the communications media: A quick look will suffice to ascertain that their owners and their management boards are in the rightwing or in sectors allied to it. Whoever says anything to the contrary is either in error or lying.

[Question] Do you think that elections can be won without control or is it essential to brainwash the electorate?

[Answer] Spaniards cannot be brainwashed because they are mature citizens. Whoever says that elections are won by television is lying. There were controls for many long years; much more strongfisted than now; nonetheless, those who controlled television lost the election, and some lost it quite resonantly.

[Question] It was because they did not know how to use it as well as you have.

[Answer] We now have parliamentary control, a radio and television statute and many other factors to block the manipulation of television. The public is capable of perceiving the work accomplished by a government without the need of television or newspapers.

[Question] Why then do politicians resent television?

[Answer] It's untrue that we politicians resent television. Of course, this does not apply to me. Television is an important communications vehicle that can underscore both the positive as the negative aspects of issues. It's true that it sometimes helps us to explain things we do well, but it also emphasizes things we do poorly.

[Question] Why have efforts been made by every means to bring about private television stations prior to the next elections?

[Answer] This is another false assertion. This bill has required very painstaking and meticulous research, particularly with regard to technical

matters. It has taken a lot of time to study all the problems and we have undertaken the study soberly and responsibly. Such a bill could not be done hastily.

[Question] The opposition also fears that the allocation of television stations will favor the friends of the government.

[Answer] They should not worry; private television will not be for the friends of the government. The allocation mechanism guarantees public bidding, as in the case of all administrative concessions. The government will scrupulously evaluate the merits of each application prior to awarding a concession.

[Question] What will be the criteria?

[Answer] The technical and economic feasibility of the enterprise, in other words, the economic and technical resources of the promoter or the group that wants to establish a station. It would not do well for us to have to form an INI of private television stations after a short time has elapsed. We shall also evaluate the type of programming, national production capability and the ability to cover all the national territory, as well as the varying needs of the public. Therefore there will not be any cronyism in allocation of stations. That would be a too simplistic view of the situation.

[Question] Until that time, it is to be supposed that applicants will treat the government well in order to make points.

[Answer] Is that what you think? Well, just look at the communications media and you will see the scarce complacency they have toward the government.

[Question] Will public television compete openly or will it be protected by you in some way?

[Answer] The best self-protection is quality.

[Question] Will there be sufficient advertising time for all?

[Answer] The subject of advertising is strictly regulated in the draft bill. Private television stations are limited to 10 percent of weekly programming time for advertising and in no case more than 10 minutes of advertising per hour, nor more than four breaks per hour. I don't know if the market is elastic enough to expand as much as some think.

[Question] Why haven't these strict measures been applied previously to public television?

[Answer] The three basic conditions (40 percent local station production, 10 minutes of advertising time per hour and 50 percent films of Spanish or European production) are being met by public television, hence we are not stricter with private television than we are with the existing television. These measures are basic to the protection of our film industry and the

interests of the public because, as I have told you, we consider television, above all, to be a public service.

[Question] All that's left to know is when will we be able to push the button and select from among the various stations.

[Answer] It's hard to set a date. The process does not depend on the government alone, but rather on the time it takes to debate the issue in Parliament and the direction taken by the dialogue of the opposition forces. We want the broadest agreement with respect to the content of the bill. I dare not specify firm dates, although we would wish that they would be operating by the next general elections.

[Question] That is now impossible.

[Answer] It's difficult.

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END